



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

PIEDMONT REGIONAL OFFICE

4949A Cox Road, Glen Allen, Virginia 23060

(804) 527-5020 Fax (804) 527-5106

www.deq.virginia.gov

Matthew J. Strickler
Secretary of Natural Resources

David K. Paylor
Director

James J. Golden
Regional Director

March 25, 2019

Mr. James Osborne
General Manager
WestRock CP LLC
910 Industrial Street
Hopewell, Virginia 23860

Location: City of Hopewell
Registration No: 50370

Dear Mr. Osborne:

Attached is a renewal Title V permit to operate your facility pursuant to 9 VAC 5 Chapter 80 of the Virginia Regulations for the Control and Abatement of Air Pollution.

This permit contains legally enforceable conditions. Failure to comply may result in a Notice of Violation and civil penalty. Please read all conditions carefully.

This approval to operate does not relieve WestRock CP LLC of the responsibility to comply with all other local, state, and federal permit regulations.

Issuance of this permit is a case decision. The Regulations, at 9VAC5-170-200, provide that you may request a formal hearing from this case decision by filing a petition with the Board within 30 days after this permit is mailed or delivered to you. Please consult that and other relevant provisions for additional requirements for such requests.

Additionally, as provided by Rule 2A:2 of the Supreme Court of Virginia, you have 30 days from the date you actually received this permit or the date on which it was mailed to you, whichever occurred first, within which to initiate an appeal to court by filing a Notice of Appeal with:

Mr. David K. Paylor, Director
Department of Environmental Quality
P. O. Box 1105
Richmond, VA 23218

In the event that you receive this permit by mail, three days are added to the period in which to file an appeal. Please refer to Part Two A of the Rules of the Supreme Court of Virginia for additional information including filing dates and the required content of the Notice of Appeal.

If you have any questions concerning this permit, please contact the regional office at (804) 527-5020.

Sincerely,



Kyle Ivar Winter, P.E.
Deputy Regional Director

JEK/JH/50370 13 TVR Permit.doc

Attachments: Permit

cc: James Taylor, WestRock CP LLC
Julie Baty, WestRock CP LLC
Director, OAPP
Manager, Data Analysis
Director, Office of Permits and Air Toxics (3AP10), U.S. EPA, Region III



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

PIEDMONT REGIONAL OFFICE

Matthew J. Strickler
Secretary of Natural Resources

4949A Cox Road, Glen Allen, Virginia 23060
(804) 527-5020 Fax (804) 527-5106
www.deq.virginia.gov

David K. Paylor
Director

James J. Golden
Regional Director

Federal Operating Permit Article 1

This permit is based upon the requirements of Title V of the Federal Clean Air Act and Chapter 80, Article 1, of the Commonwealth of Virginia Regulations for the Control and Abatement of Air Pollution. Until such time as this permit is reopened and revised, modified, revoked, terminated or expires, the permittee is authorized to operate in accordance with the terms and conditions contained herein. This permit is issued under the authority of Title 10.1, Chapter 13, §10.1-1322 of the Air Pollution Control Law of Virginia. This permit is issued consistent with the Administrative Process Act, and 9 VAC 5-80-50 through 9 VAC 5-80-300, of the State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution of the Commonwealth of Virginia.

Authorization to operate a Stationary Source of Air Pollution as described in this permit is hereby granted to:

Permittee Name:	WestRock CP LLC
Facility Name:	Hopewell Mill
Facility Location:	910 Industrial Street Hopewell, Virginia 23860
Registration Number:	50370
Permit Number:	PRO50370

This permit includes the following programs:

Federally Enforceable Requirements - Clean Air Act (Pages 10 through 82)

March 25, 2019
Effective Date

Deputy Regional Director

March 24, 2024
Expiration Date

March 25, 2019
Signature Date

Table of Contents, 1 page
Permit Conditions, pages 10 through 81

Table of Contents

FACILITY INFORMATION	3
EMISSION UNITS	4
FACILITY WIDE APPLICABLE REQUIREMENTS	10
PULP MILL PROCESS AREA REQUIREMENTS- (EMISSION UNIT #HW-PUM2-V037, HW-PUM1-A030, HW-PUM1-A031 AND HW-PUM-V006)	22
RECAUSTICIZING PROCESS AREA REQUIREMENTS – (EMISSION UNIT ID# HW-CRP1-V999, HW-CRP2-S022, HW-SLK3-S001, HW-CRP1-V017, AND S030)...	23
CHEMICAL RECOVERY PROCESS AREA REQUIREMENTS- (EMISSION UNIT ID# HW-PSG4-S013, HW-PSG4-V999, HW-PSG4-027, HW-PSG4-S999A, HW-PSG4-S018 AND HW-PSG4-S999B)	30
CO-PRODUCT RECOVERY PROCESS AREA APPLICABLE REQUIREMENTS- (EMISSION UNIT ID#HW-CT01-V009, HW-CST1-V001A AND HW-CST1-V001B)	50
PAPER MILL PROCESS AREA APPLICABLE REQUIREMENTS- (EMISSION UNIT ID#HW-PAM1-F031, HW-PAM1-S001, HW-PAM1-S001/S002, HW-PAM1-S011, HW-PAM1-S012, HW-PAM1-S016, HW-PAM1-S999 AND HW-PAM-V998)	52
POWER GENERATION PROCESS AREA APPLICABLE REQUIREMENTS- (EMISSION UNIT ID#HW-PSG2-F002, F003, F004, HW-PSB3-F001, F002, F003 AND HW-PSG2-S022/S006)	54
MISCELLANEOUS EMISSION SOURCES APPLICABLE REQUIREMENTS- (EMISSION UNIT ID#HW-MNT1-F007, F001A, F001B, F001C, F001D, HP-RIC-GDK, HP-RIC-PGP, HP-RIC-GAC, HP-RIC-DF4 AND HP-RIC-DGS)	64
INSIGNIFICANT EMISSION UNITS.....	67
PERMIT SHIELD AND INAPPLICABLE REQUIREMENTS	70
GENERAL CONDITIONS	73
COMPLIANCE ASSURANCE MONITORING PLAN.....	82

Facility Information

Permittee
WestRock CP LLC
Hopewell Mill
910 Industrial Street
Hopewell, Virginia 23860

Responsible Official
Mr. James Osborne
General Manager

Facility
Hopewell Mill
910 Industrial Street
Hopewell, Virginia 23860

Contact Person
Ms. Julie Baty
Environmental Manager
(804) 541-9695

County-Plant Identification Number: 51-670-0003

Facility Description: NAICS 322130- WestRock CP, LLC owns and operates a Kraft pulp and paper mill that produces unbleached linerboard using a combination of recycled paper and virgin unbleached softwood pulp. Kraft sulfate turpentine and tall oil are co-produced at this facility. Additionally, the boiler and the black liquor recovery furnace are used as a cogeneration facility, selling excess power to the local utility.

Emission Units

Equipment to be operated consists of:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
Wood Yard Process Area							
WY-01	Fugitive	Paved and unpaved road vehicle traffic	-	-	-	-	May 9, 2014
WY-02	Fugitive	chip scalping and screening	208 tons/hr wood chips	-	-	-	May 9, 2014
HW-BKH1-F001/ F002	Fugitive	Bark hogs	50 tons/hr each	-	-	-	May 9, 2014
Pulp Mill Process Area							
HW-PUM2-V037	-	Digester system 2 batch digesters (1953) 7 batch digesters (1955) 3 batch digesters (1984-86)	3,000 ft3 each	Lime Kiln/Combination Boiler	HW-CRP2-SO22 HW-PSG2-S022	VOC (98%) HAP (98%)	May 9, 2014
HW-PUM1-A031 and HW-PUM-V006	-	Brown stock washer lines 1 and 3 (including filtrate and foam tanks) (<1972)	50 bone dry tons of pulp/hr, combined	-	-	-	May 9, 2014
HW-PUM1-A030	-	Brown stock washer line #2 (including filtrate & foam tanks) (1980)	40 bone dry tons of pulp/hr	-	-	-	May 9, 2014
HW-RFP1-S001	-	Recycle fiber plant	-	-	-	-	May 9, 2014
Recausticizing Area							
HW-CRP2-SO22	HW-CRP2-SO22	Lime Kiln (<3/17/1972)	10 tons/hr	Electrostatic Precipitator	HW-CRP2-CD022P	PM (98%)	May 9, 2014
HW-CRP1-V017	HW-CRP1-V017	Slaker (1976)	-	Dorr Oliver wet scrubber	HW-CRP1-CD017	PM (75%)	-

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
HW-CRP1-V999		Recausticizing Process Area	-	-	-	-	-
HW-CRP1-S030	HW-CRP1-S030	Lime storage silo	-	Indusco Baghouse	HW-CRP1-CD030	PM (99%)	May 9, 2014
HW-CRP1-622A	-	Pad clarifier and causticizing U-drains (1953)	-	-	-	-	May 9, 2014
HW-CRP1-M005 & V007	-	Mud mixing, washing and storage	-	-	-	-	May 9, 2014
HW-CRP1-V023	-	Mud pre-coat filter and vacuum pump exhaust (1993)	-	-	-	-	May 9, 2014
HW-CRP1-V025A	-	Green liquor clarifier (1998)	-	-	-	-	May 9, 2014
HW-CRP1-V025B	-	Green liquor storage tanks including surge tank	-	-	-	-	May 9, 2014
HW-CRP1-V026	-	Dregs filter, hood and vacuum pump (>1976)	-	-	-	-	May 9, 2014
HW-SLK3-S001	-	Slaker (2011)	-	wet scrubber	-	PM	May 9, 2014
HW-CRP1-F024	Fugitive	Recausticizing area fugitives	-	-	-	-	May 9, 2014
Chemical Recovery Process Area							
HW-PSG4-S013 (black liquor solids)	Chrsv-03	Black liquor recovery furnace (1980)	844 mmBtu/hr on black liquor solids 634 MMBtu/hr on #2 or #6 oil,	Electrostatic Precipitator	HW-PSG4-CD013	PM (99.7%)	May 9, 2014
				Sulfidity control	N/A (pollution prevention)	SO ₂ (no CE since is P2)	
				Indirect contact/combustion control	N/A (work practice)	TRS (no CE since is work practice)	
HW-PSG5-V034 HW-PSG4-V998/ V999	HW-PSG4-S999	12 weak black liquor storage tanks	5,400,000 gallons combined	-	-	-	May 9, 2014

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
HW-PSG4-V027	Chrsv-01	Heavy black liquor storage tanks (1979)	383,880 gallons	-	-	-	May 9, 2014
HW-PSG4-S999A	HW-CRP2-S022/ HWPSG2-S022 19(a) 19(b)	Multiple Effect Evaporators (MEEV) and High Solids Crystallizers (2001)	448.5 tons of water evaporated/hr	Lime Kiln/ Combination boiler	Lime Kiln HW-CRP2-S022 Combination boiler HW- PSG2-S022/006	VOC (98%) HAP (98%) TRS (99%)	May 9, 2014
HW-PSG4-S018	Chrsv-04	Smelt dissolving tank (1980)	70.8 tons/hr of dry solids from the recovery furnace	Wet scrubber	HD-PSG4- CD018	PM (97.7%) TRS (20%)	May 9, 2014
HW-PSG4-S999B	HW-PSG4-S999BS	Soap Skimmer (2001)	3.6 tons dry soap/ hr	-	-	-	May 9, 2014
HW-PSG4-S999A	-	MEEV induced draft Cooling Tower (2001)	24,000 gal/min recirculating water	-	-	-	May 9, 2014
-	-	Zero Emission Weak Black Liquor Filter	-	-	-	-	CA 5/30/1996
Co-Product Recovery Process Area							
HW-CT01-V009	HW-CT01-V009	Tall oil batch reactor (<3/17/1972)	30 tons/batch	Packed tower wet scrubber	HW-CT01- CD009	VOC (20.5%)	CA dated 5/30/1996
HW-CST1-V001A	-	Turpentine Condenser/Decanter (1951) (horizontal fixed roof tank)	11,657 gallons capacity	-	-	-	May 9, 2014
HW-CST1-V001B	-	Turpentine Storage (1951) (horizontal fixed roof tank)	28,000 gallons capacity	-	-	-	May 9, 2014
19	-	Low volume high concentration non-condensable gas collection and conveying system (2001)	60,000 actual cubic ft/hr at 130°F 1,970 lbs/hr	Control Valve	19(a)/19(b)	HAP containing NCG (max 1% venting semi-annual)	May 9, 2014

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
20	-	Condensate collection system including NCG condensate collection tanks & UNOX feed tank (2001)	-	-	-	-	May 9, 2014
21	-	UNOX Feed tank (vertical fixed roof) (2001)	85,000 gallons storage capacity	-	-	-	May 9, 2014
HW-CST01-V997	-	Settling Tank	19,900 gallons	-	-	-	May 9, 2014
HW-CT01-V999	-	Co-product recovery process area (excluding tall oil batch reactor)	-	-	-	-	May 9, 2014
Paper Mill Process Area							
HW-PAM1-F031	HW-PAM1-F031	Batch cleaning operation for paper machine (1953)	-	-	-	-	May 9, 2014
HW-PAM1-S001	HW-PAM1-S001	Paper machine vacuum pump-Flume (<1972)	89.9 ADT/hr	-	-	-	May 9, 2014
HW-PAM1-S001/ S002	HW-PAM1-S002	Paper machine vacuum pumps including separator and UHLE Box (<1972)	-	-	-	-	May 9, 2014
HW-PAM1-S011	HW-PAM1-S011	Wet End (Fourdrinier) (1980)	-	-	-	-	May 9, 2014
HW-PAM1-S012	HW-PAM1-S012	Press section (2014)	-	-	-	-	May 9, 2014
HW-PAM1-S016	HW-PAM1-S016	Dryer hood (1953 and 2014)	-	-	-	-	May 9, 2014
HW-PAM1-S999	HW-PAM1-S999	Paper mill process area	-	-	-	-	-

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
HW-PAM-V998	HW-PAM1-V998	2-High density storage chests (1959)	1,592,000 gallons combined	-	-	-	May 9, 2014
Power Generation Process Area							
HW-PSG2-F002, F003, F004		Coal Handling Equipment (1980)	400 tons coal/hr	-	-	-	May 9, 2014
HW-PSB3-F001, F002, F003	HW-PSB3-F001, F002, F003	Combination boiler Cooling Tower (1980)	23,000 GPM recirculation	-	-	-	May 9, 2014
HW-PSG2-S022 (coal)/S006 (wood residue)	HW-PSG2-S022	B&W Combination boiler (1980)	100 % coal - 755 mmBtu/hr	Environmental Elements Electrostatic Precipitator Sulfur content limit on Coal of 1.2% Off-Stoichiometric firing with secondary air	HW-PSG2-CD022 N/A (pollution prevention) N/A (work practice)	PM (99.5%) SO ₂ (no CE since P2) NO _x (no CE since work practice)	May 9, 2014
			Any combination of fuel - 846 mmBtu/hr				
			100% wood residue - 443 mmBtu/hr				
Miscellaneous Sources							
HW-MNT1-F007	Fugitive	Parts Cleaner-Truck Shop (>3/17/1972)	50 gallons	-	-	-	-
HW-MNT1-F001a	Fugitive	Parts Cleaner-Paper Mill	30 gallons	-	-	-	-
HW-MNT1-F001b	Fugitive	Parts Cleaner-Pulp Mill	30 gallons	-	-	-	-
HW-MNT1-F001c	Fugitive	Parts Cleaner-Power house	30 gallons	-	-	-	-

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
HW-MNT1-F001d	Fugitive	Parts Cleaner-Power house	30 gallons	-	-	-	-
HW-GAS1-F001	Fugitive	Gasoline Storage and Dispensing (1992)	2000 gallons 8000 gallons/yr	-	-	-	-
HW-PRD1-F001	Fugitive	Paved road fugitives (not wood yard)	-	-	-	-	May 9, 2014
HW-URD1-F001	Fugitive	Unpaved road fugitives(not wood yard)	-	-	-	-	May 9, 2014
PWR-10	PWR-10	6 - Fuel Oil Storage Tanks (1995)	266,000 gallons, total	-	-	-	-
HP-RIC-GDK	-	Gasoline Emergency Engine-Generator (1967)	37 HP	-	-	-	-
HP-RIC-PGP	-	Propane Emergency Engine-Generator (1981)	20 HP	-	-	-	-
HP-RIC-GAC	-	Gasoline Emergency Engine-Generator (2007)	18 HP	-	-	-	-
HP-RIC-DF4	-	Diesel Emergency Fire Pump (1994)	270 HP	-	-	-	-
HP-RIC-DGS	-	Diesel Emergency Engine-Generator (1982)	95 HP	-	-	-	-

The size/rated capacity is provided for informational purposes only, and is not an applicable requirement.

Abbreviations: ADTP = Air Dry Tons of Pulp
ADTFP = Air Dry Tons of Finished Product
VDBLS = Virgin Dry Black Liquor Solids
CA = Consent Agreement

Facility Wide Applicable Requirements

1. **Facility Wide Applicable Requirements – Requirements by Reference** - Except where this permit is more restrictive than the applicable requirement, all applicable MACT Subpart S equipment shall be operated in compliance with the requirements of 40 CFR 63, Subpart S by the dates specified in 40 CFR 63, Subpart S. (40 CFR 63.443, 40 CFR 63.446, 40 CFR 63.450, 40 CFR 63.453, 40 CFR 63.455 and 9 VAC 5-80-110)
2. **Facility Wide Applicable Requirements – Requirements by Reference** - Except where this permit is more restrictive than the applicable requirement, all applicable MACT Subpart MM equipment shall be operated in compliance with the requirements of 40 CFR 63, Subpart MM by the dates specified in 40 CFR 63, Subpart MM. (40 CFR 63.862, 40 CFR 63.864, 40 CFR 63.866, 40 CFR 63.867, and 9 VAC 5-80-110)
3. **Facility Wide Applicable Requirements – Requirements by Reference** - Except where this permit is more restrictive than the applicable requirement, all applicable MACT Subpart RR equipment shall be operated in compliance with the requirements of 40 CFR 63, Subpart RR. (40 CFR 63.962, 40 CFR 63.964, 40 CFR 63.965, 40 CFR 63.966, and 9 VAC 5-80-110)
4. **Facility Wide Applicable Requirements – Requirements by Reference** - Except where this permit is more restrictive than the applicable requirement, all applicable NSPS Subpart Y equipment shall be operated in compliance with the requirements of 40 CFR 60, Subpart Y. (40 CFR 60.254, 40 CFR 60.256, 40 CFR 60.258, and 9 VAC 5-80-110)
5. **Facility Wide Applicable Requirements – Requirements by Reference** - Except where this permit is more restrictive than the applicable requirement, all applicable NSPS Subpart BB equipment shall be operated in compliance with the requirements of 40 CFR 60, Subpart BB. (40 CFR 60.282, 40 CFR 60.283, 40 CFR 60.284, and 9 VAC 5-80-110)
6. **Facility Wide Applicable Requirements – Requirements by Reference** - Except where this permit is more restrictive than the applicable requirement, all applicable NSPS Subpart D equipment shall be operated in compliance with the requirements of 40 CFR 60, Subpart D. (40 CFR 60.42, 40 CFR 60.43, 40 CFR 60.44, 40 CFR 60.45, and 9 VAC 5-80-110)
7. **Facility Wide Applicable Requirements – Limitations** - The facility shall produce no more than 618,980 tons of air dried paper per year and 468,924 air dried tons of kraft

pulp per year (air dried is 10 percent by weight moisture content), calculated monthly as the sum of each consecutive 12 month period.
(9 VAC 5-80-110 and Condition #22 of 5/9/2014 permit)

8. **Facility Wide Applicable Requirements – Limitations** - The permittee shall demonstrate non-applicability of 9 VAC 5-80, Article 8 on a calendar year basis in accordance with Condition 28.a. This requirement shall apply upon modification of the paper machine or the recovery furnace, whichever occurs first and shall remain in effect for 10 years following the modification date of the paper machine or the recovery furnace, whichever date is later.
(9 VAC 5-80-110 and Condition #34 of 5/9/2014 permit)
9. **Facility Wide Applicable Requirements – Limitations** - The permittee shall install or continue to operate those technologies deemed to be RACT in a manner consistent with the consent agreement dated 05/30/1996. If the permittee plans to modify the control equipment or method in a manner that will result in a decrease in VOC reduction efficiencies below those defined in the consent agreement dated 05/30/1996 in paragraphs E.3, E.6, and E.8, (Conditions 47, 79, and 145 respectively). The permittee shall submit a request for a revision of the agreement to the Piedmont Regional Office.
(9 VAC 5-80-110)
10. **Facility Wide Applicable Requirements – Limitations** - Should the permittee plan any changes within the context of the new source review program to the control technologies or methods described as RACT in the agreement dated 05/30/1996, the permittee shall have the right to apply to the Board for a new source review permit, and the Board may consent to such changes, provided such changes will meet all of the new source review permit program regulatory requirements in existence at that time.
(9 VAC 5-80-110)
11. **Facility Wide Applicable Requirements - Limitations** - Emissions from the operation of each piece of equipment listed below shall not exceed the limitations specified below:

[illegible]

	<u>PM</u>	<u>PM₁₀</u>	<u>Nitrogen Oxides As NO₂</u>	<u>Sulfur Dioxide</u>	<u>Total Reduced Sulfur</u>	<u>Volatile Organic Compounds</u>	<u>Carbon Monoxide</u>
Black liquor recovery furnace (HW-PSG4-S013)	300.9 tpy	155.2 tpy	751.5 tpy	2,768.2 tpy	21.0 tpy		
Smelt dissolving Tank (HW-PSG4-S018)	54.8 tpy	54.8 tpy			4.8 tpy		
MEEV/Crystalizer (HW-PSG4-S999A)						3.5 tpy	
MEEV induced Draft Cooling Tower (HW-PSG4-S999A)	8.8 tpy	8.8 tpy					
Paper machine (HW-PAM1-S001, HW-PAM1-S001/S002, HW-PAM1-S011, HW-PAM1-S012, HW-PAM1-S016, HW-PAM1-F031)						92.3 tpy	

(9 VAC 5-80-110 and Condition #33 of 5/9/2014 permit)

12. **Facility Wide Applicable Requirements – Limitations** - The permittee shall develop and implement a written startup, shutdown, and malfunction plan that describes, in detail, procedures for operating and maintaining the source during periods of startup, shutdown, and malfunction and a program of corrective action for malfunctioning process and air pollution control equipment used to comply with the relevant standard. The plan shall identify all routine or otherwise predictable continuous monitoring system malfunctions. This plan shall be developed and implemented by the permittee for all applicable equipment in accordance with all applicable MACTs by the appropriate compliance dates. The purpose of the startup, shutdown, and malfunction plan is to:

- a. Ensure that, at all times, the permittee operates and maintains affected sources, including associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels required by the relevant standard.
- b. Ensure that the permittee is prepared to correct malfunctions as soon as practicable after their occurrence in order to minimize excess emissions of hazardous air pollutants; and
- c. Reduce the reporting burden associated with periods of startup, shutdown, and malfunction (including corrective action taken to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation).

(9 VAC 5-80-110 and 40 CFR 63.6(e)(3))

13. **Facility Wide Applicable Requirements – Limitations** - During periods of startup, shutdown, and malfunction, the owner or operator of an affected source shall operate and maintain such source (including associated air pollution control equipment and monitoring equipment) in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Piedmont Regional Office which may include, but is not limited to, monitoring results, review of operation and maintenance procedures (including the SSM plan required in Condition 12), review of operation and maintenance records, and inspection of the source.
(9 VAC 5-80-110 and 40 CFR 63.6(e)(1))
14. **Facility Wide Applicable Requirements – Limitations** - The Piedmont Regional Office may require that the permittee make changes to the startup, shutdown, and malfunction plan if the plan:
- a. Does not address a startup, shutdown, or malfunction event that has occurred;
 - b. Fails to provide for the operation of the source (including associated air pollution control equipment) during a startup, shutdown, or malfunction event in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels required by this permit; or
 - c. Does not provide adequate procedures for correcting malfunctioning process and/or air pollution control equipment as quickly as practicable.
- (9 VAC 5-80-110 and 40 CFR 63.6(e)(3)(vii))
15. **Facility Wide Applicable Requirements – Limitations** – If the startup, shutdown, and malfunction plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction but was not included in the startup, shutdown, and malfunction plan at the time the permittee developed the plan, the permittee shall revise the startup, shutdown, and malfunction plan within 45 days after the event to include detailed procedures for operating and maintaining the source during similar malfunction events and a program of corrective action for similar malfunctions of process or air pollution control equipment.
(9 VAC 5-80-110 and 40 CFR 63.6(e)(3)(viii))
16. **Facility Wide Applicable Requirements – Limitations** – At all times, including periods of start-up, shutdown, soot blowing, and malfunction, the permittee shall, to the extent practicable, maintain and operate the affected source, including associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions.

The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to air pollution control equipment, monitoring devices, and process equipment which affect such emissions:

- a. Develop a maintenance schedule and maintain records of all scheduled and nonscheduled maintenance.
- b. Maintain an inventory of spare parts.
- c. Have available written operating procedures for equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum.
- d. Train operators in the proper operation of all such equipment and familiarize the operators with the written operating procedures. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.

Records of maintenance and training shall be maintained on site for a period of five years and shall be made available to DEQ personnel upon request.
(9 VAC 5-80-110 and Condition #60 of 5/9/2014 permit)

17. **Facility Wide Applicable Requirements – MACT Subpart S Requirements - Monitoring** - Each owner or operator subject (for those pieces of equipment subject to 40 CFR 63, Subpart S) to the standards specified in §§63.443(c) and (d), 63.444(b) and (c), 63.445(b) and (c), 63.466(c), (d), and (e), 63.447(b) or §63.450(d), shall install, calibrate, certify, operate, and maintain according to the manufacturer's specifications, a continuous monitoring system as specified in paragraphs (b) through (m) of 40 CFR 63.453, except as allowed in paragraph (m) of 40 CFR 63.453. The CMS shall include a continuous recorder.
(9 VAC 5-80-110 and 40 CFR 63.453(a))
18. **Facility Wide Applicable Requirements – MACT Subpart S Requirements - Monitoring** - The permittee shall operate each control device subject to the monitoring provisions of 40 CFR 63.453 (equipment numbers HW-PUM2-V037, HW-PSG4-S999, HW-CST1-V001C, 19, 20, and 21) in a manner consistent with the minimum or maximum (as appropriate) operating parameter value or procedure required to be monitored under 40 CFR 63.453(a) through 40 CFR 453(m). Except as provided in 63.453(p), 63.443(e), or 63.446(g) operation of the control device below minimum operating parameter values or above maximum operating parameter values established under 40 CFR 63 Subpart S or failure to perform procedures required by 40 CFR 63 Subpart S shall constitute a violation of the emission standard and be reported as a period of excess emissions.
(9 VAC 5-80-110 and 40 CFR 63.453(o))
19. **Facility Wide Applicable Requirements – MACT Subpart S Requirements - Monitoring** – To establish or reestablish the value for each operating parameter required to be monitoring under 40 CFR 63.453(b), (g), (i), (l) and (m) or to establish

appropriate parameters for 40 CFR 63.453(i) and (m), each owner and operator shall use the procedures specified in 40 CFR 63.453(n)(1) through (n)(4).
(9 VAC 5-80-110 and 40 CFR 63.453(n))

20. **Facility Wide Applicable Requirements – MACT Subpart S Requirements - Monitoring** – At all times, the owner or operator must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution and control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but it not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records and inspection of the source.
(9 VAC 5-80-110 and 40 CFR 63.453(q))
21. **Facility Wide Applicable Requirements – Monitoring** - All continuous monitoring systems required under Subparts D and BB shall be subject to 40 CFR 60.13 upon promulgation of the performance specifications for continuous monitoring systems under Appendix B of 40 CFR 60. This condition specifically applies to the NO_x monitor, SO₂ monitor, diluent monitors, and opacity monitor on the combination (HW-PSG2-S022/006) and the opacity, diluent, and TRS monitors on the recovery furnace (HW-PSG4-S013)
(9 VAC 5-80-110 and 40 CFR 60.13(a))
22. **Facility Wide Applicable Requirements – Monitoring** - The permittee shall check the zero (or low level value between 0 and 20 percent of span value) and span (50 to 100 percent of span value) calibration drifts on the continuous monitoring systems of the combination boiler (HW-PSG2-S022/006) and the recovery furnace (HW-PSG4-S013) at least once daily in accordance with a written procedure. The zero and span shall, as a minimum be adjusted whenever the 24 hour zero drift or 24 hour span drift exceeds two times the limits of the applicable performance specifications in Appendix B of 40 CFR 60. The system must allow the amount of excess zero and span drift measured at the 24 hour interval checks to be recorded and quantified. For continuous monitoring systems measuring the opacity of emissions from the combination boiler (HW-PSG2-S022/006) and the recovery furnace (HW-PSG4-S013), the optical surfaces exposed to the effluent gases shall be cleaned prior to performing the zero and span drift adjustments except for systems using automatic zero adjustments. The optical surfaces shall be cleaned when the cumulative automatic zero compensation exceeds 4 percent opacity.
(9 VAC 5-80-110 and 40 CFR 60.13(d)(1))
23. **Facility Wide Applicable Requirements – Monitoring** - Minimum procedures for continuous monitoring systems measuring opacity of emissions from the combination boiler (HW-PSG2-S022/006) and the recovery furnace (HW-PSG4-S013) shall include a method for producing a simulated zero opacity condition and an upscale (span)

opacity condition using a certified neutral density filter or other related technique to produce a known obscuration of the light beam. Such procedures shall provide a system check of the analyzer internal optical surfaces and all electronic circuitry including the lamp and photo detector assembly.

(9 VAC 5-80-110 and 40 CFR 60.13(d)(2))

24. **Facility Wide Applicable Requirements – Monitoring** - Except for system breakdowns, repairs, calibration checks, and zero and span adjustments required, all continuous monitoring systems on the combination boiler (HW-PSG2-S022/006) and the recovery furnace (HW-PSG2-013) shall be in continuous operation and shall meet minimum frequency of operation requirements as follows:

- a. All continuous monitoring systems for measuring opacity of emissions shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive six-minute period.
- b. All continuous monitoring systems for measuring emissions, except opacity, shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15 minute period.

(9 VAC 5-80-110 and 40 CFR 60.13(e))

25. **Facility Wide Applicable Requirements – Monitoring** - All continuous monitoring systems or monitoring devices shall be installed such that representative measurements of emissions or process parameters from the affected facility are obtained. Additional procedures for location of continuous monitoring systems contained in the applicable Performance Specifications of 40 CFR 60 Appendix B of this part shall be used.

(9 VAC 5-80-110 and 40 CFR 60.13(f))

26. **Facility Wide Applicable Requirements – Monitoring** - For the continuous emission monitoring systems monitoring the combination boiler (HW-PSG2-S022/006) and the recovery furnace (HW-PSG4-S013), the permittee shall reduce all data from continuous monitoring systems for measurement of opacity to six minute averages and for continuous monitoring system other than opacity to one hour averages. Six minute opacity averages shall be calculated from 36 or more data points equally spaced over each six minute period. For continuous monitoring systems other than opacity, one hour averages shall be computed from four or more data points equally spaced over each one hour period. Data recorded during periods of continuous system breakdown, repair, calibration checks, and zero and span adjustments shall not be included in the data averages computed under this paragraph. An arithmetic or integrated average of all data may be used. The data may be recorded in reduced or nonreduced form (e.g., ppm pollutant and percent O₂ or ng/J of pollutant). All excess emissions shall be converted into units of the standard using the applicable conversion procedures specified in 40 CFR 60. After conversion into units of the standard, the data may be rounded to the

same number of significant digits as used in the applicable subparts to specify the emission limit (e.g., rounded to the nearest 1 percent opacity).
(9 VAC 5-80-110 and 40 CFR 60.13(h))

27. **Facility Wide Applicable Requirements – Monitoring - Excess Emissions -** Regardless of the requirements listed in Conditions 99 and 100, no violation of applicable emission standards or monitoring requirements shall be judged to have taken place if the excess emissions or cessation of monitoring activities is due to a malfunction, provided that the owner has taken expedient and reasonable measures to minimize emissions during the breakdown period; the permittee has taken expedient and reasonable measures to correct the malfunction and return the facility to a normal operation; and the source is in compliance at least 90% of the operating time over the most recent 12 month period.
(9 VAC 5-80-110 and Condition #39 of 5/9/2014 permit)
28. **Facility Wide Applicable Requirements – Recordkeeping -** The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content of and format of such records shall be arranged with the Piedmont Regional Office. These records shall include, but are not limited to,
- a. A description of the applicability test used to determine that the project (i.e. modifying the paper machine and recovery furnace) is not a major modification for any regulated NSR pollutant under 9 VAC 5-80, Article 8, including the baseline actual emissions, the projected actual emissions, and netting calculations, as applicable.
 - b. Calculations of calendar year emission estimates in tons per year for the operation of the modified equipment and all equipment that will have an emissions increase or decrease as a result of modified equipment (identified in Condition 1 of the 5/9/2014 permit) for each of the 10 years following the modification date of the paper machine or the recovery furnace, whichever date is later.
- These records shall be available for inspection by the DEQ and shall be current for the most recent five years.
(9 VAC 5-80-110, 9 VAC 5-60-100 and Condition #52 j and k of 5/9/2014 permit)
29. **Facility Wide Applicable Requirements – Recordkeeping –** The permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the affected facilities for Subparts D and BB of 40 CFR 60 (equipment numbers HW-PSG2-S022, HW-PSG4-S013, HW-PSG4-S999, and HW-PSG4-S018); any malfunction of the air pollution control equipment (equipment numbers HW-PSG4-CD999, HW-PSG2-S022, HW-PSG4-CD014, HW-PSG4-CD018, and HW-PSG2-CD022), or any periods during which a continuous monitoring system or monitoring device is inoperative.
(9 VAC 5-80-110 and 40 CFR 60.7(b))

30. **Facility Wide Applicable Requirements – Recordkeeping** - When actions taken by the permittee during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) are consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the permittee shall keep records for that event that demonstrate that the procedures specified in the plan were followed. These records may take the form of a checklist or other effective form of record keeping that confirms conformance with the startup, shutdown, and malfunction plan for that event. In addition, the permittee shall keep records of these events as required in Condition 29, including records of the occurrence and duration of each startup, shutdown, or malfunction of operation and each malfunction of the air pollution control equipment. Furthermore, the permittee shall confirm that actions taken during the relevant reporting period during periods of startup, shutdown, and malfunction are consistent with the permittee's startup, shutdown, and malfunction plan in the semiannual startup, shutdown, and malfunction report required in Condition 39. (9 VAC 5-80-110 and 40 CFR 63.6(e)(3)(iii))
31. **Facility Wide Applicable Requirements – Recordkeeping** - The permittee shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by 40 CFR 60 recorded in a permanent form suitable for inspection. The file shall be retained for at least two years following the date of such measurements, maintenance, reports and records. (9 VAC 5-80-110 and 40 CFR 60.7(f))
32. **Facility Wide Applicable Requirements – Recordkeeping** - The permittee shall keep the written startup, shutdown, and malfunction plan on record after it is developed to be made available for inspection, upon request, by the Piedmont Regional Office for the life of the affected source or until the affected source is no longer subject to the provisions of 40 CFR 63. In addition, if the startup, shutdown, and malfunction plan is revised, the permittee shall keep previous (i.e. superseded) versions of the startup, shutdown, and malfunction plan on record, to be made available for inspection, upon request, by the Piedmont Regional Office, for a period of 5 years after each revision to the plan. (9 VAC 5-80-110 and 40 CFR 63.6(e)(3)(v))
33. **Facility Wide Applicable Requirements – Recordkeeping** - The permittee shall maintain a file containing all emission factors, rated capacities, and formulas used to show compliance with the limitations listed in Condition 11. (9 VAC 5-80-110)
34. **Facility Wide Applicable Requirements – Recordkeeping** - The permittee subject to the provisions of 40 CFR 63 shall maintain files of all information (including all reports and notifications) recorded in a form suitable and readily available for

expeditious inspection and review. The files shall be retained for at least five years following the date of each occurrence, measurement, maintenance, corrective action, report or record. At a minimum the most recent two years of data shall be retained on site. The remaining three years of data may be retained off site. Such files may be maintained on microfilm, on a computer, on computer floppy disks, on magnetic tape disks, or on microfiche. The permittee shall maintain relevant records of:

- a. The occurrence and duration of each startup, shutdown, or malfunction of operation (i.e., process equipment);
- b. The occurrence and duration of each malfunction of the air pollution control equipment;
- c. All maintenance performed on the air pollution control equipment;
- d. Actions taken during periods of startup, shutdown, and malfunction (including corrective actions to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation) when such actions are different from the procedures specified in the startup, shutdown, and malfunction plan required in Condition 12.
- e. All information necessary to demonstrate conformance with the startup, shutdown, and malfunction plan required in Condition 12 when all actions taken during periods of startup, shutdown, and malfunction (including corrective actions to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation) are consistent with the procedures specified in the plan. The information needed to demonstrate conformance with the startup, shutdown, and malfunction plan may be recorded using a checklist or some other effective form of record keeping, in order to minimize the record keeping burden for conforming events.
- f. Each period during which a continuous monitoring system is malfunctioning or inoperative;
- g. Results of all performance tests, continuous monitoring system evaluations, and opacity and visible emission observations;
- h. All measurements as may be necessary to determine the conditions of performance tests and performance evaluations;
- i. All continuous monitoring system calibration checks;
- j. All adjustments and maintenance performed on continuous monitoring systems;
- k. All documentation supporting initial notifications and notifications of compliance status under 40 CFR 63.9.

(9VAC 5-80-110, 40 CFR 63.10(b) and 40 CFR 63.454(a) and (g))

35. **Facility Wide Applicable Requirements – Testing** - The permitted facility shall be constructed so as to allow for emissions testing and monitoring upon reasonable notice at any time using appropriate methods. Test ports shall be provided at the appropriate locations.
(9 VAC 5-80-110 and Condition #51 of 5/9/2014 permit)
36. **Facility Wide Applicable Requirements – Reporting** - The permittee shall submit an excess emissions report to the Piedmont Regional Office, for each calendar quarter for each continuous monitoring system, including the bypass line monitoring device required in Condition 108 and the scrubber monitoring devices required in Condition 104. The report shall be postmarked by the 30th day following the end of each calendar quarter and shall contain the information and be in the format required by 40 CFR 60.7.
(9 VAC 5-80-110, 40 CFR 60.7, and Condition #54 and 55 of 5/9/2014 permit)
37. **Facility Wide Applicable Requirements - Reporting** - The permittee shall submit a report to the board if the annual emissions, as determined in Condition 28.b of this permit, exceed baseline actual emissions by a significant amount for any regulated NSR pollutant and differ from the preconstruction projection as documented and maintained pursuant to Condition 28.a of this permit. Such report shall be submitted to the board within 60 days after the end of such calendar year. The report shall contain the following:
- a. The name, address and telephone number of the major stationary source;
 - b. The annual emissions as calculated pursuant to Condition 28.b of this permit; and
 - c. Any other information that the owner wishes to include in the report (for example, an explanation as to why the emissions differ from the preconstruction projection).
- (9 VAC 5-80-110 and Condition #56 of 5/9/2014 permit)
38. **Facility Wide Applicable Requirements – MACT Reporting** - If an action taken by the permittee during a startup, shutdown, or malfunction (including an action taken to correct a malfunction) is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator shall record the actions taken for that event and shall report such actions within 2 working days after commencing actions inconsistent with the plan, followed by a letter within 7 working days after the end of the event, in accordance with § 63.10(d)(5) (unless the owner or operator makes alternative reporting arrangements, in advance, with the Administrator).
(9 VAC 5-80-110 and 40 CFR 63.6(e)(3)(iv))
39. **Facility Wide Applicable Requirements – Reporting** - If actions taken by the permittee during a startup, shutdown, or malfunction of an affected source (including actions taken to correct a malfunction) are consistent with the procedures specified in the permittee's startup, shutdown, and malfunction plan, the permittee shall state such

information in a startup, shutdown, and malfunction report. Reports shall only be required if a startup, shutdown, or malfunction occurred during the reporting period. The startup, shutdown, and malfunction report shall consist of a letter containing the name, title and signature of the permittee or other responsible office who is certifying its accuracy that shall be submitted to the Piedmont Regional Office semiannually. The startup, shutdown, and malfunction report shall be delivered or postmarked by the 30th day following the end of each calendar half.
(9 VAC 5-80-110 and 40 CFR 63.10(d)(5)(i))

40. **Facility Wide Applicable Requirements – MACT Reporting** - Any time an action taken by the permittee during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) is not consistent with the procedures specified in the startup, shutdown, and malfunction plan, the permittee shall report the actions taken for that event within two working days after commencing actions inconsistent with the plan followed by a letter within seven working days after the end of the event. The immediate report required here shall consists of a telephone call (or facsimile transmission) to the Piedmont Regional Office within two working days after commencing actions inconsistent with the plan, and it shall be followed by a letter, delivered or postmarked within seven working days after the end of the event, that contains the name, title, and signature of the permittee or other responsible official who is certifying its accuracy, explaining the circumstances of the event, the reasons for not following the startup, shutdown, and malfunction plan, and whether any excess emissions and/or parametric monitoring exceedances are believed to have occurred.
(9 VAC 5-80-110 and 40 CFR 63.10(d)(5)(ii))
41. **Facility Wide Applicable Requirements – MACT Subpart S Requirements - Reporting** – The permittee shall comply with the reporting requirements of 40 CFR 63 Subpart A as specified in Table 1 of MACT Subpart S and all the applicable requirements of 40 CFR 63.455. These requirements shall include but are not limited to:
- a. Malfunction reporting requirements - If a malfunction occurred during the reporting period, the report must include the number, duration and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operating during a malfunction of an affected source to minimize emissions in accordance with 40 CFR 63.453(q), including actions taken to correct a malfunction.
 - b. Performance test reporting – The permittee shall submit test reports as specified in 40 CFR 63.455(h)(1) through (h)(4).
(9 VAC 5-80-110 and 40 CFR 63.455)

Pulp Mill Process Area Requirements- (emission unit #HW-PUM2-V037, HW-PUM1-A030, HW-PUM1-A031 and HW-PUM-V006)

42. **Pulp Mill Process Area -- (emission unit ID# HW-PUM2-V037) - Limitations -** The permittee shall not cause or permit to be discharged into the atmosphere from the digester system any total reduced sulfur (TRS) emissions in excess of the following limits: 5 ppm by volume on a dry basis, corrected to 10 percent O₂.
(9 VAC 5-80-110 and 9 VAC 5-40-1690 A.2)
43. **Pulp Mill Process Area – (emission unit ID# HW-PUM2-V037) - Limitations -** Achievement of the emission standard listed in Condition 42 shall be by combustion of gases in a lime kiln subject to 9 VAC Chapter 40, part II, Article 13 (HW-CRP2-S022) or a device which is not subject to the provisions of 9 VAC Chapter 40, Part II, Article 13 and which is subjected to a minimum temperature of 1200° F for at least 0.5 seconds (combination boiler, HW-PSG2-S022).
(9 VAC 5-80-110, 9 VAC 5-40-1690 B, and 9 VAC 5-40-1700 1 & 2.)
44. **Pulp Mill Process Area – (emission unit ID# HW-PUM2-V037) - MACT Subpart S Requirements - Limitations -** The pulping process condensate from the equipment systems listed in 40 CFR 63.446(b)(1-6) shall be treated to meet the requirements specified in 40 CFR 63.446(c), (d) and (e).
(9 VAC 5-80-110 and 40 CFR 63.446(a) and (b))
45. **Pulp Mill Process Area – (emission unit ID# HW-PUM2-V037) - MACT Subpart S Requirements - Limitations -** The pulping process condensates from equipment systems listed in 40 CFR 63.446(b)(1-6) that contain a total HAP mass of 3.6 kilograms or more of total HAP per megagram (7.2 pounds per ton) of ODP for mills that do not perform bleaching shall be subject to the requirements of 40 CFR 63.446(d) and (e). The pulping process condensates from the equipment systems listed in 40 CFR 63.446(b) shall be conveyed in a closed collection system that is designed and operated to meet the requirements specified in 40 CFR 63.446(d)(1) and (d)(2). Each pulping process condensate from the equipment systems listed in 40 CFR 63.446(b) shall be treated according to one of the options of 40 CFR 63.446(e)(1-5).
(9 VAC 5-80-110 and 40 CFR 63.446(c), (d), and (e))
46. **Pulp Mill Process Area – (emission unit ID# HW-PUM2-V037, HW-PUM1-A030, HW-PUM1-A031 and HW-PUM-V006)- MACT Subpart S Requirements - Limitations -**As an alternative to the requirements specified in §63.443(a)(1)(ii) through (a)(1)(v) for the control of HAP emissions from pulping systems using the kraft process, an owner or operator must demonstrate to the satisfaction of the Administrator, by meeting all the requirements within 40 CFR 63.447, that the total HAP emissions reductions achieved by this clean condensate alternative technology are equal to or greater than the total HAP emission reductions that would have been achieved by compliance with §63.443(a)(1)(ii) through (a)(1)(v).
(9 VAC 5-80-110 and 40 CFR 63.447)

47. **Pulp Mill Process Area – Limitations** - RACT for the weak black liquor filter within the pulp mill area of the Hopewell Mill shall be use of a no-emissions filter. The no-emissions filter shall be designed, installed, operated, and controlled in such a manner as to eliminate emissions.
(9 VAC 5-80-110)
48. **Pulp Mill Process Area – MACT Subpart S Requirements - Monitoring** – The permittee shall install a CMS and establish appropriate operating parameters to be monitored that demonstrate to the Department’s satisfaction, continuous compliance with the applicable requirements of 40 CFR 63.446(c) and 63.447.
(9 VAC 5-80-110 and 40 CFR 63.453(m))

Recausticizing Process Area Requirements – (emission unit ID# HW-CRP1-V999, HW-CRP2-S022, HW-SLK3-S001, HW-CRP1-V017, and S030)

49. **Recausticizing Process Area – (emission unit ID# HW-CRP1-V999) - Limitations** - Visible emissions from the recausticizing process area shall not exceed 20 percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 30 percent opacity.
(9 VAC 5-50-80 and 9 VAC 5-80-110)
50. **Recausticizing Process Area – (emission unit ID# HW-CRP2-S022 and HW-CRP1-S030) Limitations** - Visible emissions from the lime kiln and the lime storage silo shall not exceed 20 percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 60 percent opacity. Failure to meet this requirement because of the presence of water vapor shall not be a violation.
(9 VAC 5-40-80 and 9 VAC 5-80-110)
51. **Recausticizing Process Area – (emission unit ID# HW-CRP2-S022) MACT Subpart MM Requirements- Limitations** - Visible emissions from the lime kiln shall comply with the following compliance provisions:
 - a. Corrective action shall be implemented when the average of ten consecutive 6-minute averages exceed 20 percent opacity.
 - b. Until October 11, 2019, the permittee is in violation of the standards of §63.862 when opacity is greater than 20 percent for 6 percent or more of the operating time within any quarterly period.
 - c. Effective October 11, 2019, the permittee is in violation of the standards of §63.862 if the opacity monitoring exceedance for the lime kiln is greater than 20 percent for 3 percent or more of the operating time within any semiannual period.
 - d. For the purposes of determining the number of nonopacity monitoring exceedances, no more than one exceedance will be attributed in any given 24-hour period.
(9 VAC 5-80-110, 40 CFR 63.864(k)(1)(i), 40 CFR 63.864(k)(2) and 40 CFR 63.864(k)(3))

52. **Recausticizing Process Area – (emission unit ID# HW-CRP2-S022, HW-SLK3-S001 and HW-CRP1-V017)- Limitations** - The permittee shall not cause or permit to be discharged into the atmosphere from any group of similar affected facilities specified below, any particulate emissions in excess of the following limits:
- Lime kiln: 1.0 lb/equivalent ton of air dried pulp
 0.064 grains/dry standard cubic foot corrected to 10 percent O₂
- Slaker tank units: 0.30 lbs particulate/equivalent ton of air dried pulp
- (9 VAC 5-80-110 and 9 VAC 5-40-1680, and 40 CFR 63.862(a))
53. **Recausticizing Process Area – (emission unit ID# HW-CRP1-S030)- Limitations** - Emissions from the operation of the lime storage silo shall not exceed the limits specified below:
- PM 44.8 lb/hr 196.4 ton/yr
(9 VAC 5-80-110 and 9 VAC 5-40-260)
54. **Recausticizing Process Area – (emission unit ID# HW-CRP2-S022) - Limitations** - To achieve the standard in Condition 52, the particulate emissions in the lime kiln exhaust shall be controlled by an electrostatic precipitator. The ESP shall be equipped with a continuous opacity monitoring system. The ESP shall be provided with adequate access for inspection.
(9 VAC 5-80-110B.1 and 40 CFR 63.864(d))
55. **Recausticizing Process Area – (emission unit ID# HW-SLK3-S001 and HW-CRP1-V017) - Limitations** - To achieve the standard of 0.3 lbs particulate/equivalent ton of air dried pulp, the particulate emissions in the slaker tanks exhaust shall be controlled by wet scrubbers. The scrubbers shall be equipped with devices to record liquid flow rate and devices to continuously measure the liquid supply pressure to the scrubber. The scrubbers shall be provided with adequate access for inspection.
(9 VAC 5-80-110B.1)
56. **Recausticizing Process Area – (emission unit ID# HW-CRP2-S022) - Limitations** - The permittee shall not cause or permit to be discharged into the atmosphere from any kraft wood pulping operation unit specified below any TRS emissions in excess of the following limits:
- Lime kilns: 20 ppm by volume on a dry basis, corrected to 10 percent O₂
(9 VAC 5-80-110 and VAC 5-40-1690.A.4.)
57. **Recausticizing Process Area – (emission unit ID# HW-CRP2-S022) - Limitations** - TRS from the lime kiln shall be controlled by process and mechanical methods.
(9 VAC 5-80-110B.1)

58. **Recausticizing Process Area – (emission unit ID# HW-CRP2-S022) – MACT Subpart MM Requirements – Limitations** - The permittee shall operate and maintain any affected source, including air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the permittee to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. Determination of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the source.
(9 VAC 5-80-110 and 40 CFR 63.860(d))
59. **Recausticizing Process Area – (emission unit ID# HW-CRP2-S022)- Monitoring** - The permittee shall install, certify, maintain, and operate continuous monitoring equipment to monitor and record the concentration of TRS emissions on a dry basis and the percentage of oxygen by volume on a dry basis in the gases discharged into the atmosphere from the lime kiln. The location of each monitoring system must be approved by the board.
(9 VAC 5-80-110 and 9 VAC5-40-1770.B.1)
60. **Recausticizing Process Area – (emission unit ID# HW-CRP2-S022) - Monitoring** - The permittee shall install, calibrate, maintain, and operate a monitoring device which measures the combustion temperature at the point of incineration of effluent gases which are emitted from the lime kiln. The monitoring device is to be certified by the manufacturer to be accurate within 1.0 percent of the temperature being measured.
(9 VAC 5-80-110 and 9 VAC5-40-1770 B 2)
61. **Recausticizing Process Area – (emission unit ID# HW-CRP1-V999) - Monitoring** - The permittee shall implement its quality assurance plan. At a minimum the plan shall provide for daily calibration drift checks, periodic preventive maintenance, and annual audits.
(9 VAC 5-80-110 and 9 VAC 5-40-1780.D)
62. **Recausticizing Process Area – (emission unit ID# HW-CRP2-S022) - Monitoring** - The minimum data capture and validity requirements for the TRS monitor on the lime kiln shall be as follows:
- a. Valid TRS and O₂ data shall be obtained for no less than 75 percent of the operating hours of each quarter. Section 4 of Procedure 1 of Appendix F of 40 CFR 60 shall be used to determine valid data.
 - b. For TRS or O₂ concentrations, a valid data hour shall have at least 50 percent valid readings.

- c. A 24 hour average TRS or oxygen concentration shall be considered valid if at least 50 percent of the operating hours in the 24 hour period are valid data hours.
- d. Valid temperature data shall be obtained for no less than 90 percent of the operating time of each quarter.

(9 VAC 5-80-110 and 9 VAC 5-40-1770.C)

63. **Recausticizing Process Area – (emission unit ID# HW-CRP2-S022) MACT Subpart MM Requirements - Monitoring** - The owner or operator of a lime kiln equipped with an ESP must install, calibrate, maintain, and operate a continuous opacity monitoring system in accordance with Performance Specification 1 (PS-1) in appendix B to 40 CFR 60 and the provisions in §63.7(h) and §63.8. The COMS must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period. Each 6-minute COMS data average must be calculated as the average of 36 or more data points equally spaced over each 6-minute period. Effective October 11, 2019, the owner or operator must maintain proper operation of the ESP's automatic voltage control. The owner or operator shall meet the data quality assurance and monitoring data requirements of §63.864(f) and §63.864(h), respectively.
(9 VAC 5-80-110, 40 CFR 63.863(c), 40 CFR 63.864(d) and (e)(1), 40 CFR 63.8(c)(4)(i) and (g)(2), and 40 CFR 63.864(f) and (h))

64. **Recausticizing Process Area – (emission unit ID# HW-CRP2-S022) MACT Subpart MM Requirements - Monitoring** - During the initial or periodic performance test required in 40 CFR 63.865 the permittee shall:
- a. Establish operating limits for the monitoring parameters in §63.864 (e)(1) and (2) and (e)(10) through (14) as appropriate; or
 - b. The permittee may base operating limits on values recorded during previous performance tests or conduct additional performance tests for the specific purpose of establishing operating limits in accordance with §63.864(j)(2).

(9 VAC 5-80-110 and 40 CFR 63.864(j))

65. **Recausticizing Process Area – (emission unit ID# HW-CRP2-S022) MACT Subpart MM Requirements - Monitoring** - The permittee must continuously monitor each parameter and determine the arithmetic average value of each parameter during each performance test run. Multiple performance tests may be conducted to establish a range of parameter values. Operating limits must be confirmed or reestablished during performance tests. New, expanded or replacement operating limits for the monitoring parameter values §63.864(e)(1) and (e)(2) and (e)(10) through (e)(14) should be determined in accordance with §63.864(j)(5)(i) and (ii).
(9 VAC 5-80-110 and 40 CFR 63.864(j)(4) and (5))

66. **Recausticizing Process Area – (emission unit ID# HW-CRP1-V999 and HW-CRP1-S030)-Monitoring** - The permittee shall perform a visible emission observation (VEO) in accordance with 40 CFR 60, Appendix A, Method 22 on the exhaust stacks of the recausticizing process area and lime storage silo at least one time per month that each unit is operated. If visible emissions are observed, the permittee shall take timely corrective actions such that the systems resume operation with no visible emissions, or perform a visible emission evaluation (VEE) in accordance with 40 CFR 60, Appendix A, Method 9 to assure visible emissions from the systems do not exceed 20 percent opacity. The VEE shall be conducted for a minimum of six minutes. If compliance is not demonstrated by this VEE, timely corrective action shall be taken such that the systems resume operation with visible emissions of 20 percent or less. If six consecutive months of observations indicate visible emissions of 20 percent or less from each unit, then the frequency of monitoring may revert to a quarterly basis. Monitoring shall revert back to a monthly basis if a subsequent quarterly observation indicates visible emissions greater than 20 percent. The permittee shall maintain an observation log to demonstrate compliance. The log shall include the date and time of the observations, whether or not there were visible emissions, any VEE recordings and any necessary actions.
(9 VAC 5-80-110)
67. **Recausticizing Process Area – (emission unit ID# HW-SLK3-S001 and HW-CRP1-CD017) - Monitoring** - The permittee shall monitor and record the liquid supply pressure and the liquid flow rate of the scrubber controlling the slaker tanks. Corrective action shall be implemented when any 3-hour average parameter value is outside the range of values approved by DEQ that are established from past test data.
(9 VAC 5-80-110)
68. **Recausticizing Process Area – (emission unit ID# HW-CRP2-S022) - Recordkeeping** - The permittee shall calculate and record on a daily basis the 24-hour average TRS concentration for each operating day for the lime kiln. Each 24 hour average shall be determined as the arithmetic mean of the appropriate 24 contiguous 1 hour average TRS concentrations provided by the continuous monitoring system installed under 9 VAC 5-40-1770 B 1 (Lime kiln monitoring system) and Condition 59 (9 VAC 5-80-110 and 9 VAC 5-40-1780.B.1)
69. **Recausticizing Process Area – (emission unit ID# HW-CRP2-S022) - Recordkeeping** - The permittee shall calculate and record on a daily basis the 24-hour average O₂ concentration for each operating day for the lime kiln. These 24-hour averages shall correspond to the 24 hour average TRS concentration required under Condition 68 and shall be determined as an arithmetic mean of the appropriate 24 contiguous one hour average oxygen concentrations provided by the continuous monitoring system installed on the lime kiln.
(9 VAC 5-80-110 and 9 VAC 5-40-1780.B.2)

70. **Recausticizing Process Area – (emission unit ID# HW-CRP2-S022) - Recordkeeping** - The permittee shall correct all 24-hour average TRS concentrations to 10 volume percent oxygen.
(9 VAC 5-80-110 and 9 VAC 5-40-1780.B.3)
71. **Recausticizing Process Area – (emission unit ID# HW-CRP2-S022) - Recordkeeping** - The permittee shall record continuously on a daily basis the temperature of the point of incineration as well as the periods of operation for each operating day for the lime kiln. The temperature monitoring device interlock that is part of the non-condensable gas safety system on the lime kiln shall be used to comply with this requirement.
(9 VAC 5-80-110 and 9 VAC 5-40-1780.B.4 & 5)
72. **Recausticizing Process Area – (emission unit ID# HW-CRP2-S022) – MACT Subpart MM Requirements - Recordkeeping** -The permittee shall maintain all emission data and operating parameters necessary to demonstrate compliance with Subpart MM. These records include, but are not limited to the following:
- a. Records of any occurrence when corrective action is required under §63.864(k)(1) and when a violation is noted under §63.864(k)(2).
 - b. Records of information in 40 CFR 63.866(c)(1) through (8) as applicable in addition to the general records required by 40 CFR 63.10(b)(2).
 - c. In accordance with §63.866(d), records of each failure to meet an applicable standard, including any emission limit in §63.862 or any opacity or CPMS operating limit in §63.864.
- (9 VAC 5-80-110 and 40 CFR 63.866(b), (c) and (d))
73. **Recausticizing Process Area – (emission unit ID# HW-CRP2-S022, HW-SLK3-S001 and HW-CRP1-V017) - Recordkeeping** - The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Piedmont Regional Office. These records shall include, but are not limited to:
- a. The most recent compliance tests showing compliance with the particulate emissions limitations on the lime kiln and the slaker tanks.
 - b. Records of liquid supply pressure, liquid flow rates and corrective actions from the slaker tank wet scrubbers.
- These records shall be available on site for inspection by the DEQ and shall be current for the most recent five years.
(9 VAC 5-80-110 B, 9 VAC 5-80-110 F and 9 VAC 5-40-50)
74. **Recausticizing Process Area – (emission unit ID# HW-SLK3-S001 and HW-CRP1-V017) - Testing** – At an interval not to exceed five years, the facility shall conduct a

performance test for particulate matter from the exhaust of the scrubber controlling the slaker tanks to determine compliance with the emission limitations listed in Condition 52 of this permit. Tests shall be conducted and reported and data reduced as set forth in 9 VAC 5-50-30. The details of the tests are to be arranged with the Piedmont Regional Office. The permittee shall submit a test protocol at least 30 days prior to testing. One copy of the test results shall be submitted to the Piedmont Regional Office within 45 days after test completion and shall conform to the test report format enclosed with this permit.

(9 VAC 5-80-110 B)

75. **Recausticizing Process Area – (emission unit ID# HW-CRP2-S022) - MACT Subpart MM Requirements- Testing** – The owner or operator shall conduct performance tests using the test methods and procedures listed in §63.7 and §63.865(b). The first of the 5-year periodic performance tests must be conducted by October 13, 2020, and thereafter within 5 years following the previous performance test. Performance tests shall be conducted based on representative performance (i.e. performance based on normal operating conditions) of the affected source for the period being tested. The permittee must record the process information that is necessary to document operating conditions during the test and include in such record an explanation to support that such conditions represent normal operation. Upon request, the permittee shall make available to the Administrator such records as may be necessary to determine the conditions of the performance tests. Within 60 days after the date of completing each performance test the permittee shall submit the results of the performance test following the procedure specified in §63.867(d)(1)(i) or (d)(1)(ii) and be submitted to the Piedmont Regional Office.
(9 VAC 5-80-110, 40 CFR 63.863(c), 40 CFR 63.865, and 40 CFR 63.867(d)(1))
76. **Recausticizing Process Area – (emission unit ID#HW-CRP2-S022)- Reporting -** The permittee shall report semi-annually all 24 hour average TRS concentrations above 20 ppm by volume on a dry basis, corrected to 10 percent O₂ of the lime kiln and the periods of operation.
(9 VAC 5-80-110 and 9 VAC 5-40-1780.C.2 and 4)
77. **Recausticizing Process Area – (emission unit ID#HW-CRP2-S022) – MACT Subpart MM Requirements - Reporting -** The permittee shall submit quarterly excess emissions reports containing the information specified in 40 CFR 63.867(c)(1) through (c)(5). The reports shall be submitted following the procedures specified in 40 CFR 63.867(d)(2) as specified in 40 CFR 63.10(e)(3)(v). If applicable, notifications and reports shall be submitted in accordance with §63.867(d)(3) and/or (d)(4). All notifications and reports shall be submitted to the Piedmont Regional Office.
(9 VAC 5-80-110, 9 VAC 5-50-50 C, and 40 CFR 63.867(c) and (d))
78. **Recausticizing Process Area – (emission unit ID#HW-SLK3-S001 and HW-CRP1-V017)- Reporting -** The permittee shall report semiannually all measurements taken from the liquid flow meters and liquid supply pressure devices associated with the

slaker tank scrubbers that are excursions as well as all actions taken to rectify the excursion.
(9 VAC 5-80-110)

Chemical Recovery Process Area Requirements- (emission unit ID# HW-PSG4-S013, HW-PSG4-V999, HW-PSG4-027, HW-PSG4-S999A, HW-PSG4-S018 and HW-PSG4-S999B)

79. **Chemical Recovery Process Area – Limitations** - RACT for the VOC sources within the non-condensable gas system shall be thermal oxidation. This thermal destruction of VOCs shall be accomplished by venting the non condensable gases to the lime kiln while the lime kiln is operating normally as defined within Condition 94. The lime kiln (HW-CRP2-S022) shall be operated and the non-condensable gases shall be vented in a manner consistent with the requirements of 9 VAC 5-20-180 of the State Regulations for the Control and Abatement of Air Pollution. The permittee shall continue to operate the lime kiln (HW-CRP2-S022) and the non-condensable gas system in a manner consistent with minimizing VOC emissions to the extent practicable and in a manner consistent with good air pollution control practices.
(9 VAC 5-80-110)
80. **Chemical Recovery Process Area – (emission unit ID# HW-PSG4-S013) - Limitations** - Approved fuels for the black liquor recovery furnace include black liquor, fuel oil, and natural gas. The annual fossil fuel capacity factor shall not exceed 10 percent. A change in fuel may require a permit to modify and operate.
(9 VAC 5-80-110 and Conditions #18 and 19 of 5/9/2014 permit)
81. **Chemical Recovery Process Area – (emission unit ID# HW-PSG4-S013) - Limitations** - Particulate emissions from the black liquor recovery furnace shall be controlled by an electrostatic precipitator with a design control efficiency of 99.7 percent. The electrostatic precipitator shall be oversized to permit a more stable and efficient operation. The electrostatic precipitator shall be provided with adequate access for inspection.
(9 VAC 5-80-110 and Condition #6 of 5/9/2014 permit)
82. **Chemical Recovery Process Area – (emission unit ID# HW-PSG4-S013) - Limitations** - Sulfur dioxide emissions from the black liquor recovery furnace shall be controlled by limiting sulfidity during process operations.
(9 VAC 5-80-110 and Condition #7 of 5/9/2014 permit)
83. **Chemical Recovery Process Area – (emission unit ID# HW-PSG4-S013) - Limitations** - Total reduced sulfur emissions from the black liquor recovery furnace shall be controlled by process and mechanical methods including indirect heating of the black liquor being fired in the furnace and combustion air control.
(9 VAC 5-80-110 and Condition #9 of 5/9/2014 permit)

84. **Chemical Recovery Process Area – (emission unit ID# HW-PSG4-S013) - Limitations** – Nitrogen Oxide (as NO₂) emissions from the black liquor recovery furnace shall be controlled by boiler design and good operating procedures. The black liquor recovery furnace shall be provided with adequate access for inspection.
(9 VAC 5-80-110 and Condition #8 of 5/9/2014 permit)
85. **Chemical Recovery Process Area – (emission unit ID# HW-PSG4-S013) - Limitations** - The black liquor fired in the recovery furnace shall contain no more than 76% by weight virgin black liquor solids. The percent by weight of virgin black liquor solids shall be measured at the exit of the indirect contact liquor heater once per month. The permittee shall maintain records of the monthly virgin black liquor solids content.
(9 VAC 5-80-110 and Condition #21 of 5/9/2014 permit)
86. **Chemical Recovery Process Area – (emission unit ID# HW-PSG4-S013) - Limitations** - Emissions from the operation of the black liquor recovery furnace shall not exceed the limitations specified below:

Pollutant	Determination Method	Emission Limit
Filterable PM	Reference Method 5	0.044 gr/dscf corrected to 8% O ₂ (NSPS BB/MACT MM) 68.7 lbs.hr
Sulfur Dioxide	Reference Method 6 or alternative method*	250 ppm (PSD BACT) 632.0 lbs/hr
Total Reduced Sulfur	Reference Method 18, Method 16A or Method 16B	5 ppm by volume on a dry basis corrected to 8% O ₂ (NSPS BB) 4.8 lb/hr

*alternative determination method approved by DEQ
(9 VAC 5-80-110, 40 CFR 60.282(a), 40 CFR 63.862(a), 40 CFR 60.283(a), and Condition #27 of 5/9/2014 permit)

87. **Chemical Recovery Process Area – (emission unit ID# HW-PSG4-S013) - Limitations - Visible Emissions Limit** – Visible emissions from the black liquor recovery furnace shall not exceed 35 percent opacity as determined by the EPA Method 9 (reference 40 CFR 60, Appendix A).
(9 VAC 5-80-110, 40 CFR 60.282(a)(1)(ii) and Condition #28 of 5/9/2014 permit)
88. **Chemical Recovery Process Area – (emission unit ID# HW-PSG4-S013) - Limitations** – The permittee shall implement corrective action for the black liquor recovery furnace when the average of ten consecutive 6-minute averages results in a measurement greater than 20 percent opacity.
(9 VAC 5-80-110, and 40 CFR 63.864(k)(1)(i))
89. **Chemical Recovery Process Area – (emission unit ID# HW-PSG4-S013) - Limitations** - Emissions from the operation of the black liquor recovery furnace shall not exceed the limitations specified below:

Pollutant	Determination Method	Emission Limit
PM10	Reference Method 201A (filterable) and 202 (condensable) or alternative method*	43.6 lbs/hr
Nitrogen Oxides (as NO ₂)	Reference Method 7 or alternative method*	199.9 lbs/hr

**Alternative methods for determining emissions shall be approved by DEQ
(9 VAC 5-80-110 and Condition # 29 of 5/9/2014 permit)*

90. **Chemical Recovery Process Area – (emission unit ID# HW-PSG4-S018) - Limitations** -Particulate emissions from the smelt dissolving tank shall be controlled by a wet scrubber with a design control efficiency of 97.7%. The scrubbing liquor shall be weak wash liquor or, if necessary, clean fresh water. The scrubber shall be provided with adequate access for inspection.
(9 VAC 5-80-110 and Condition #10 of 5/9/2014 permit)
91. **Chemical Recovery Process Area – (emission unit ID# HW-PSG4-S018) - Limitations** - Total reduced sulfur emissions from the smelt dissolving tank shall be controlled by a wet scrubber. The scrubbing liquid shall be weak wash liquor or, if necessary, clean fresh water shall be used to control the total reduced sulfur. The scrubber shall be provided with adequate access for inspection.
(9 VAC 5-80-110 and Condition #11 of 5/9/2014 permit)
92. **Chemical Recovery Process Area – (emission unit ID# HW-PSG4-S018)- Limitations** - Emission from the operation of the smelt dissolving tank shall not exceed the limitations specified below:

Pollutant	Determination Method	Emission Limit
Filterable PM	Reference Method 5	0.2 lbs/ton of dry black liquor solids (NSPS BB) 12.5 lbs.hr
Total Reduced Sulfur	Reference Method 18, Method 16A or Method 16B	0.0168 lbs/ton of dry black liquor solids 1.1 lbs/hr

(9 VAC 5-80-110, 40 CFR 60.282(a)(2), 40 CFR 63.862(a), and Condition #30 of 5/9/2014 permit)

93. **Chemical Recovery Process Area – (emission unit ID# HW-PSG4-S018)- MACT Subpart MM Requirements – Limitations** - Visible emissions from the smelt dissolving tank (HW-PSG4-S018) shall comply with the following compliance provisions:
- Corrective action shall be implemented when any 3-hour average parameter value is outside the range of values established in 40 CFR 63.864(j).

- b. Until October 11, 2019, the permittee is in violation of the standards of §63.862 when six or more 3-hour average parameter values within any 6-month reporting period are outside the range of values established in 40 CFR 63.864(j).
- c. Effective October 11, 2019, the permittee is in violation of the standards of §63.862 when six or more 3-hour average parameter values within any 6-month reporting period are below the minimum operating limits established in 40 CFR 63.864(j), with the exception of pressure drop during periods of startup and shutdown.
- d. For purposes of determining the number of nonopacity monitoring exceedances, no more than one exceedance will be attributed in any given 24-hour period.

(9 VAC 5-40-110, 40 CFR 63.864(k)(1)(ii), 40 CFR 63.864(k)(2)(iii) and (iv) and 40 CFR 63.864(k)(3))

94. **Chemical Recovery Process Area – Limitations** - VOC, hazardous air pollutants (HAP), and TRS emissions from the non-condensable gases emitted from the following equipment shall be captured and vented into a closed-vent system. These gases shall be controlled by thermal oxidation at a minimum of 1400°F in the lime kiln (HW-CRP2-S022) for at least 0.5 seconds.

- a. Multiple effect evaporator and crystallizer concentrator system (HW-PSG4-S999A)
- b. Turpentine decanter vent (HW-CST1-V001A)
- c. Turpentine storage tank vent (HW-CST1-V001B)
- d. UNOX feed tank vent (21)
- e. Blow heat accumulator secondary condenser vent

In the event that the lime kiln (HW-CRP2-S022) temperature drops below 1400°F or is not operating normally, or due to lime kiln non-condensable gas safety system interlock malfunctions, the non-condensable gases shall be controlled by thermal oxidation in the combination boiler (HW-PSG2-S022/006) at a minimum of 1400°F. In the event that the white liquor sulfidity of the mill is greater than 30% and cannot be lowered by the addition of makeup chemicals, the facility may elect to thermally oxidize the non-condensable gases in the combination boiler (HW-PSG2-S022/006). Immediately upon achieving a white liquor sulfidity of less than or equal to 30% the facility will initiate use of the lime kiln (HW-CRP2-S022) if the lime kiln is operating normally. The facility shall not exceed 876 hours of non-condensable gas thermal oxidation in the combination boiler (HW-PSG2-S022/006), calculated monthly as the sum of the previous 12-month period.

The thermal destruction efficiency for volatile organic compounds shall be at least 98% by weight. The thermal destruction efficiency for HAP shall be at least 98% by weight. The thermal destruction efficiency for TRS compounds shall be at least 99% by weight. Compliance with the temperature requirements shall be indicative of compliance with the thermal destruction efficiencies. The non-condensable gases shall be introduced

into the lime kiln (HW-CRP2-S022) or combination boiler (HW-PSG2-S022/006) with the primary fuel or into the flame zone. The non-condensable gas system shall be provided with adequate access for inspection.

(9 VAC 5-80-110, 40 CFR 63.443(d), 40 CFR 60.283(a)(1)(iii), 40 CFR 63.443(d)(4)(i) and Condition #12 of 5/9/2014 permit)

95. **Chemical Recovery Process Area – (emission unit ID# HW-PSG2-S022/006)- Limitations** - Emissions from the thermal oxidation of non-condensable gases in the combination boiler (HW-PSG2-S022/006) shall not exceed the limitations specified below:

Sulfur Dioxide	50.6 lbs/hr
Nitrogen Oxides (as NO ₂)	3.2 lbs/hr
Carbon Monoxide	32.8 lbs/hr
Volatile Organic Compounds	18.6 lbs/hr
Total Reduced Sulfur	0.3 lbs/hr

(9 VAC 5-80-110 and Condition #25 of 5/9/2014 permit)

96. **Chemical Recovery Process Area – Limitations** - The permittee shall maintain negative pressure at each enclosure or hood opening. Each component of the closed vent system that is operated at positive pressure and located upstream of the lime kiln or the combination boiler (HW-PSG2-S022/006) shall be designed for and operated with no detectable leaks as indicated by an instrument reading of less than 500 ppm by volume above background as described in 40 CFR 63.457(d).
(9 VAC 5-80-110, 40 CFR 63.450(b), 40 CFR 63.450(c), and Condition #13 of 5/9/2014 permit)

97. **Chemical Recovery Process Area – Limitations** - Condensate from the following equipment shall be hard piped to a discharge point below the liquid surface of a biological treatment system that shall reduce or destroy the total HAP by at least 92% by weight. The Hopewell Water Renewal facility, which is the existing industrial treatment plant for the permittee, is required to meet the 92% by weight reduction standard as specified in 40 CFR 63.1583(a).

- Segregated foul condensate from the multiple effect evaporator system and crystallizer concentrator (HW-PSG4-S999A).
- Turpentine decanter (HW-CST1-V001A) and turpentine storage tank underflow.
- Blow heat accumulator secondary condenser condensate.
- Blow heat accumulator primary condenser condensate

For the purposes of testing to show total HAP emission reductions from the use of the clean condensate alternative as specified in 40 CFR 63.447, the permittee may use the primary condenser condensate from the blow heat accumulator in the brown stock washers. Otherwise the brown stock washers (HW-PUM1-A030, HW-PUM1-A031, and HW-PUM-V006) shall use only clean fresh water, and the blow heat accumulator primary condenser condensate shall be controlled by being hard piped to a discharge point below the liquid surface of a biological treatment system that shall reduce or destroy the total HAP by at least 92% by weight.

The UNOX feed tank's fixed roof (21) and all other openings shall be designed and operated with no detectable leaks as indicated by an instrument reading of less than 500 parts per million by volume of methanol above background, and vented into a closed vent system which exhausts to the non-condensable gas control system. Each opening on the UNOX feed tank (21) shall be maintained in a closed, sealed position (e.g. covered by a lid that is gasketed and latched) at all times that the tank contains pulping process condensates or any HAP removed from a pulping process condensate stream except when it is necessary to use the opening for sampling, removal, or for equipment inspection, maintenance, or repair.

(9 VAC 5-80-110, 40 CFR 63.446e, 40 CFR 63.446d and Condition #14 of 5/9/2014 permit)

98. **Chemical Recovery Process Area – (emission unit ID# HW-PSG4-S999A) -**

Limitations - Emissions from the operation of the multiple effect evaporator system and crystallizer concentrator system (HW-PSG4-S999A) shall not exceed the limitations specified below:

VOCs as determined by Reference Method 25 or alternative method approved by DEQ:
0.8 lbs/bone dry ton of pulp (ADTP) (9 VAC 5-50-260)

0.8 lbs/hour (annual average)

(9 VAC 5-80-110 and Condition #31 of 5/9/2014 permit)

99. **Chemical Recovery Process Area – (emission unit ID# HW-PSG4-S013) -**

Limitations – Regardless of the requirements in Conditions 100 and 27, the DEQ shall not consider periods of excess emissions from the black liquor recovery furnace to be indicative of a violation provided that the total number of possible contiguous periods of excess emissions in a quarter (excluding periods of startup, shutdown, or malfunction and periods when the facility is not operating- for TRS emissions) during which the excess emissions occur does not exceed one percent of TRS emissions or six percent for average opacity. The opacity excess emissions in this condition are effective until October 11, 2019.

(9 VAC 5-80-110, 40 CFR 60.284(e)(1), 40 CFR 63.864(k)(2) and Condition #37 of 5/9/2014 permit)

100. **Chemical Recovery Process Area – Limitations** – Regardless of the requirements in Conditions 99 and 27, the DEQ shall not consider periods of excess emissions from the non-condensable gas collection and control system to be a violation provided that the

time of excess emissions divided by the total process operating time in a semi-annual reporting period does not exceed 1 percent.

(9 VAC 5-80-110, 40 CFR 63.443(e)(1) and Condition #38 of 5/9/2014 permit)

101. **Chemical Recovery Process Area – (emission unit ID# HW-PSG4-S013) - MACT Subpart MM Requirements -Limitations** – Effective October 11, 2019, the permittee is in violation of the standards of §63.862 if the opacity monitoring exceedance for the black liquor recovery furnace is greater than 35 percent for 2 percent or more of the operating time within any semiannual period.
(9 VAC 5-80-110 and 40 CFR 63.864(k)(2))
102. **Chemical Recovery Process Area – (emission unit ID# HW-PSG4-S013 and HW-PSG4-S018) - MACT Subpart MM Requirements – Limitations** - The permittee shall operate and maintain any affected source, including air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the permittee to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. Determination of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the source.
(9 VAC 5-80-110 and 40 CFR 63.860(d))
103. **Chemical Recovery Process Area – (emission unit ID# HW-PSG4-S013) - NSPS Subpart BB Requirements - Monitoring** -- The following CEM systems shall be installed on the stack of the black liquor recovery furnace:
- a. A CEM to measure and record the opacity of stack gases;
 - b. A CEM to measure and record the concentration of total reduced sulfur in the stack gases; and
 - c. A CEM to measure and record the oxygen concentration in the stack gases.
- All of the CEM calculation, data reduction, record keeping, and reporting requirements of NSPS Subpart BB shall apply. All 12 hour periods during which the average of the TRS concentration exceeds 5 ppm by volume corrected to 8% oxygen shall be considered a period of excess emissions. All six minute averages of opacity that exceed 35 percent shall be considered a period of excess emissions.
(9 VAC 5-80-110, 40 CFR 60.284(a)(1) and (2), 40 CFR 60.284(d), and Condition #36 of 5/9/2014 permit)
104. **Chemical Recovery Process Area – (emission unit ID# HW-PSG4-S018) - NSPS Subpart BB Requirements – Monitoring** - The permittee shall install, calibrate, maintain, and operate a continuous monitoring device for the continuous measurement of the pressure loss of the gas stream through the scrubber controlling the emissions

from the smelt dissolving tank. The monitoring device shall be certified by the manufacturer to be accurate to within a gauge pressure of ± 500 Pascals (ca. ± 2 inches water gauge pressure). The permittee shall install, calibrate, maintain, and operate a continuous monitoring device for the continuous measurement of the scrubbing liquid supply pressure to the scrubber controlling the smelt dissolving tank. The monitoring device shall be certified by the manufacturer to be accurate to within ± 15 percent of design scrubbing liquid supply pressure. The pressure sensor or tap shall be located close to the scrubber liquid discharge point. The permittee shall record once per shift measurements obtained from these devices.

(9 VAC 5-80-110, 40 CFR 60.284(b)(2)(i) and (ii), 40 CFR 60.284(c)(4), and Condition #40 of 5/9/2014 permit)

105. **Chemical Recovery Process Area- (emission unit ID# HW-PSG4-S013) - MACT Subpart MM Requirements – Monitoring** - The owner or operator of a black liquor recovery furnace equipped with an ESP must install, calibrate, maintain, and operate a continuous opacity monitoring system in accordance with Performance Specification 1 (PS-1) in appendix B to 40 CFR 60 and the provisions in §63.7(h) and §63.8. The COMS must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period. Each 6-minute COMS data average must be calculated as the average of 36 or more data points equally spaced over each 6-minute period. Effective October 11, 2019, the owner or operator must maintain proper operation of the ESP's automatic voltage control. The owner or operator shall meet the data quality assurance and monitoring data requirements of §63.864(f) and §63.864(h), respectively.
(9 VAC 5-80-110, 40 CFR 63.863(c), 40 CFR 63.864(d) and (e)(1), 40 CFR 63.8(c)(4)(i) and (g)(2), and 40 CFR 63.864(f) and (h))
106. **Chemical Recovery Process Area- (emission unit ID# HW-PSG4-S013 and HW-PSG4-S018) - MACT Subpart MM Requirements – Monitoring** – During the initial or periodic performance test required in 40 CFR 63.865 the permittee shall:
- a. Establish operating limits for the monitoring parameters in §63.864 (e)(1) and (2) and (e)(10) through (14) as appropriate; or
 - b. The permittee may base operating limits on values recorded during previous performance tests or conduct additional performance tests for the specific purpose of establishing operating limits in accordance with §63.864(j)(2).
(9 VAC 5-80-110 and 40 CFR 63.864(j))
107. **Chemical Recovery Process Area- (emission unit ID# HW-PSG4-S013 and HW-PSG4-S018) - MACT Subpart MM Requirements – Monitoring** – The permittee must continuously monitor each parameter and determine the arithmetic average value of each parameter during each performance test run. Multiple performance tests may be conducted to establish a range of parameter values. Operating limits must be confirmed or reestablished during performance tests. New, expanded or replacement operating

limits for the monitoring parameter values §63.864(e)(1) and (e)(2) and (e)(10) through (e)(14) should be determined in accordance with §63.864(j)(5)(i) and (ii).
(9 VAC 5-80-110 and 40 CFR 63.864(j)(4) and (5))

108. **Chemical Recovery Process Area – Monitoring** - On each bypass line in the closed-vent system, the permittee shall install, calibrate, maintain, and operate according to manufacturer's specifications a flow indicator that provides a record of the presence of gas stream flow in the bypass line at least once every 15 minutes. The flow indicator shall be installed in the bypass line in such a way as to indicate flow in the bypass line. Use of valve position indication is equivalent to flow indication.
(9 VAC 5-80-110; 40 CFR 63.450(d), 40 CFR 63.454(e), and Condition #44 of 5/9/2014 permit)
109. **Chemical Recovery Process Area – (emission unit ID# HW-PSG4-S999A) - Monitoring** - The permittee shall install, calibrate, maintain, and operate a continuous monitoring system to monitor and record the concentration of TRS emissions on a dry basis and the percent of oxygen by volume on a dry basis in the gases discharged into the atmosphere from the MEEV, except where the provisions of §60.283(a)(1)(iii) or (iv) apply. These systems shall be located downstream of the control devices and the spans of these continuous monitoring systems shall be set:

At a TRS concentration of 30 ppm for the TRS continuous monitoring system;

At 25 percent oxygen for the continuous oxygen monitoring system.
(9 VAC 5-80-110 and 40 CFR 60.284(a)(2))
110. **Chemical Recovery Process Area- (emission unit ID# HW-PSG4-S018) - MACT Subpart MM Requirements – Monitoring** - The owner or operator of a smelt dissolving tank equipped with a wet scrubber must install, calibrate, maintain, and operate a CPMS that can be used to determine and record the pressure drop across the scrubber and the scrubbing liquid flow rate at least once every successive 15-minute period using the procedures in 63.8(c). The monitoring device used for the continuous measurement of the pressure drop of the gas stream across the scrubber must be certified by the manufacturer to be accurate to within a gauge pressure of ± 500 Pascals (ca. ± 2 inches water gauge pressure). The monitoring device used for the continuous measurement of the scrubbing liquid flow rate must be certified by the manufacturer to be accurate within $\pm 5\%$ of the design scrubbing liquid flow rate.
(9 VAC 5-80-110 and 40 CFR 63.864(e)(10)(i) and (ii))
111. **Chemical Recovery Process Area- (emission unit ID# HW-PSG4-S018) - Monitoring** - The following monitoring shall be used for the scrubber (HW-PSG4-CD018) controlling the emissions from the smelt dissolving tank to demonstrate compliance with the particulate emission limitations of Condition 92. Scrubber ID fan operation shall be verified via a gas differential pressure greater than 1 inch of water column on a 3-hour average basis. The smelt dissolving tank shall be deemed to be operating within compliance if, while the ID fan is operating, the 3-hour average scrubbing liquid flow rate remains within a range of 309 to 500 gpm and the 3 hour

average scrubbing liquid supply pressure remains below 25 psig. These devices shall be calibrated and maintained according to manufacturer's specifications and comply with the applicable monitoring and record keeping requirements of 40 CFR 63.864 through 63.867.

Alternatively, the permittee shall install, operate and maintain continuous monitoring devices for any parameters designated in a United States Environmental Protection Agency approved site-specific monitoring plan.

(9 VAC 5-80-110, 40 CFR 63.8(f) and 40 CFR 63.864(e)(13) and (14))

112. **Chemical Recovery Process Area – (emission unit ID# HW-CRP2-S022 and HW-PSG2-S022/006) - Monitoring** - The permittee shall install, calibrate, maintain, and operate a continuous monitoring device that measures and displays the thermal oxidation temperature of the non-condensable gases. This monitoring device shall be installed at the point of thermal oxidation on the lime kiln. The temperature monitoring device that is part of the non-condensable gas safety system on the lime kiln may be used to comply with this requirement. For both the lime kiln and the combination boiler, all periods in excess of five minutes and their duration during which the combustion temperature at the point of thermal oxidation is less than 1400°F while burning non-condensable gases shall be considered a period of excess emissions. During each consecutive 12 month period, excess emissions shall account for no more than 1% of the total process operating time.
(9 VAC 5-80-110, 40 CFR 60.453(a) and (b), and Condition #41 of 5/9/2014 permit)
113. **Chemical Recovery Process Area – Monitoring** - For each enclosure opening, the permittee shall perform a visual inspection of the closure mechanism at least once every calendar month (with at least 15 days between inspections) to ensure the opening is maintained in the closed position and sealed. Each closed vent system shall be visually inspected every calendar month (with at least 15 days between inspections) and at other times as requested by the Piedmont Regional Office. The visual inspection shall include inspection of the duct work, piping, enclosures, and connections to covers for visible evidence of defects.

For portions of the closed vent system under negative pressure the permittee shall:

- a. Continuously monitor the closed-vent collection system vacuum in the portion of the system that includes the tie to the condensate collection tank, which is the farthest point from the point of vacuum generation;
- b. Record vacuum losses as system wide excess emission events and include these events in the semiannual summary report required by 40 CFR 63.10(e)(3)(vi); and
- c. On a calendar quarter basis, with at least 30 days elapsed time between inspections, perform a general visual area survey of these sections of the system, which will consist of a walk through looking for visible condensate or other leakage. The survey will review each individual component of ductwork, piping, enclosures, and

connections to cover but will only identify defective components that need maintenance or repair.

(9 VAC 5-80-110, 40 CFR 63.453(k)(1) & (2), 40 CFR 63.8(f) and Condition #42 of 5/9/2014)

114. **Chemical Recovery Process Area – Monitoring** - For each enclosure opening, the permittee shall demonstrate initially and annually that each enclosure opening is maintained at negative pressure using one of the following procedures:
- An anemometer to demonstrate flow into the enclosure opening;
 - Measure the static pressure across the opening;
 - Smoke tubes to demonstrate flow into the enclosure opening; or
 - Any other industrial ventilation test method demonstrated to the satisfaction of the Piedmont Regional Office.

(9 VAC 5-80-110, 40 CFR 63.453(k)(4), 40 CFR 63.457(e), and Condition #43 of 5/9/2014 permit))

115. **Chemical Recovery Process Area – Monitoring** - For positive pressure closed vent systems or portions of closed vent systems, the permittee shall demonstrate no detectable leaks initially and annually using Method 21. The instrument specified in Method 21 shall be calibrated before use according to the procedures specified in Method 21 on each day that leak checks are performed. The following calibration gases shall be used: zero air (less than 10 ppm by volume of hydrocarbon in air) and a mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm by volume methane or n-hexane.

(9 VAC 5-80-110, 40 CFR 63.450(c), 40 CFR 63.453(k)(3), 40 CFR 63.457(d) and Condition #45 of 5/9/2014 permit)

116. **Chemical Recovery Process Area – NSPS Subpart BB Requirements – Monitoring** - All continuous monitoring systems required under Subpart BB shall be subject to 40 CFR 60.13 upon promulgation of the performance specifications for continuous monitoring systems under Appendix B of 40 CFR 60. This condition specifically applies to the TRS, diluent, and opacity monitors on the recovery furnace (HW-PSG4-S013).

(9 VAC 5-80-110 and 40 CFR 60.13(a))

117. **Chemical Recovery Process Area – (emission unit ID# HW-PSG4-S013) - NSPS Subpart BB Requirements – Monitoring** - The permittee shall check the zero (or low level value between 0 and 20 percent of span value) and span (50 to 100 percent of span value) calibration drifts on the continuous monitoring systems of the recovery furnace at least once daily in accordance with a written procedure. The zero and span shall, as a minimum be adjusted whenever the 24 hour zero drift or 24 hour span drift exceeds two times the limits of the applicable performance specifications in Appendix

B of 40 CFR 60. The system must allow the amount of excess zero and span drift measured at the 24 hour interval checks to be recorded and quantified. For continuous monitoring systems measuring the opacity of emissions from the recovery furnace, the optical surfaces exposed to the effluent gases shall be cleaned prior to performing the zero and span drift adjustments except for systems using automatic zero adjustments. The optical surfaces shall be cleaned when the cumulative automatic zero compensation exceeds 4 percent opacity.
(9 VAC 5-80-110 and 40 CFR 60.13(d)(1))

118. **Chemical Recovery Process Area – (emission unit ID# HW-PSG4-S013) -NSPS Subpart BB Requirements – Monitoring** - Minimum procedures for continuous monitoring systems measuring opacity of emissions from the recovery furnace shall include a method for producing a simulated zero opacity condition and an upscale (span) opacity condition using a certified neutral density filter or other related technique to produce a known obscuration of the light beam. Such procedures shall provide a system check of the analyzer internal optical surfaces and all electronic circuitry including the lamp and photo detector assembly.
(9 VAC 5-80-110 and 40 CFR 60.13(d)(2))
119. **Chemical Recovery Process Area – (emission unit ID# HW-PSG4-S013) - NSPS Subpart BB Requirements – Monitoring** - Except for system breakdowns, repairs, calibration checks, and zero and span adjustments required, all continuous monitoring systems on the recovery furnace shall be in continuous operation and shall meet minimum frequency of operation requirements as follows:
- a. All continuous monitoring systems for measuring opacity of emissions shall complete a minimum of one cycle of sampling and analyzing for each successive 10 second period and one cycle of data recording for each successive 6 minute period.
 - b. All continuous monitoring systems for measuring emissions, except opacity, shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15 minute period.
- (9 VAC 5-80-110 and 40 CFR 60.13(e))
120. **Chemical Recovery Process Area – NSPS Subpart BB Requirements – Monitoring** - All continuous monitoring systems or monitoring devices shall be installed such that representative measurements of emissions or process parameters from the affected facility are obtained. Additional procedures for location of continuous monitoring systems contained in the applicable Performance Specifications of 40 CFR 60 Appendix B of this part shall be used.
(9 VAC 5-80-110 and 40 CFR 60.13(f))
121. **Chemical Recovery Process Area – (emission unit ID# HW-PSG4-S013) - NSPS Subpart BB Requirements – Monitoring** - For the continuous emission monitoring systems monitoring the recovery furnace, the permittee shall reduce all data from

continuous monitoring systems for measurement of opacity to 6 minute averages and for continuous monitoring system other than opacity to 1 hour averages. Six minute opacity averages shall be calculated from 36 or more data points equally spaced over each 6 minute period. For continuous monitoring systems other than opacity, 1 hour averages shall be computed from four or more data points equally spaced over each 1 hour period. Data recorded during periods of continuous system breakdown, repair, calibration checks, and zero and span adjustments shall not be included in the data averages computed under this paragraph. An arithmetic or integrated average of all data may be used. The data may be recorded in reduced or nonreduced form (e.g., ppm pollutant and percent O₂ or ng/J of pollutant). All excess emissions shall be converted into units of the standard using the applicable conversion procedures specified in 40 CFR 60. After conversion into units of the standard, the data may be rounded to the same number of significant digits as used in the applicable subparts to specify the emission limit (e.g., rounded to the nearest 1 percent opacity).
(9 VAC 5-80-110 and 40 CFR 60.13(h))

122. **Chemical Recovery Process Area – Monitoring Observations** - If a manual seal is used to comply with 40 CFR 63.450(d)(2), the permittee shall inspect at least once every 30 days the bypass valve or closure mechanism required to ensure that the bypass valve is maintained in the closed position and the non-condensable gas stream is not diverted from the required control equipment. Alternatively, the permittee shall conduct monitoring as approved by the United States Environmental Protection Agency.
(9 VAC 5-80-110, 40 CFR 63.453(k)(5), 40 CFR 63.8(b)(ii) and Condition #46 of 5/9/2014 permit)

123. **Chemical Recovery Process Area – Monitoring Observations** - If an inspection required in Conditions 108, or 113 through 115, or 122 identifies visible defects in duct work, piping, enclosures or connections to covers, or if an instrument reading of 500 ppm by volume or greater above background is measured, or if enclosure openings are not maintained at negative pressure, then the following corrective actions shall be taken as soon as practicable. For purposes of this condition, defects are described in 40 CFR 63.964.
- A first effort to repair or correct the closed vent system shall be made as soon as practicable but no later than 5 calendar days after the problem is identified.
 - The repair or corrective action shall be completed no later than 15 calendar days after the problem is identified.

(9 VAC 5-80-110, 40 CFR 63.453(k)(6) and Condition #47 of 5/9/2014 permit)

124. **Chemical Recovery Process Area – Monitoring Observations** - The permittee shall inspect the individual drain system monthly in accordance with the following requirements:

- a. When the drain is using a water seal to control air emissions, the permittee shall verify appropriate liquid levels are being maintained and identify any other defects that could reduce water seal control effectiveness.
- b. When the drain is using a closure device to control air emissions, the permittee shall visually inspect each drain to verify that the closure device is in place and there are no defects. Defects include, but are not limited to, visible cracks, holes, or gaps in the closure devices; broken cracked or otherwise damaged seals or gaskets on closure devices; and broken or missing plugs, caps, or other closure devices.
- c. The permittee shall visually inspect each junction box to verify that closure devices are in place and there are no defects. Defects include, but are not limited to, visible cracks, holes, or gaps in the closure devices; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps or other closure devices.
- d. The permittee shall visually inspect the unburied portion of each sewer line to verify that all closure devices are in place and there are not defects. Defects include, but are not limited to, visible cracks, holes, gaps, or other open spaces in the sewer line joints, seals, or other emission interfaces.
- e. The permittee shall perform the inspections initially at the time of installation of the water seals and closure devices for the individual drain system and, thereafter, at least every 30 days.

(9 VAC 5-80-110, 40 CFR 63.453(l)(1), 40 CFR 63.964(a)(1) and Condition #48 of 5/9/2014 permit)

125. **Chemical Recovery Process Area – (emission unit ID #HW-PSG4-S013) - Monitoring – Compliance Assurance Monitoring (CAM)** – The permittee shall monitor, operate, calibrate and maintain the electrostatic precipitator controlling the black liquor recovery furnace according to the CAM plan in this permit.
(9VAC5-80-110 and 40 CFR 64.6 (c))
126. **Chemical Recovery Process Area – (emission unit ID #HW-PSG4-S018) - Monitoring – CAM** – The permittee shall monitor, operate, calibrate and maintain the wet scrubber controlling the smelt dissolving tank according to the CAM plan in this permit.
(9VAC5-80-110 and 40 CFR 64.6 (c))
127. **Chemical Recovery Process Area – (emission unit ID # HW-PSG4-S013 and HW-PSG4-S018) - Monitoring – CAM** – The permittee shall conduct the monitoring and fulfill the other obligations specified in 40 CFR 64.7 through 40 CFR 64.9.
(9VAC5-80-110 and 40 CFR 64.6 (c))
128. **Chemical Recovery Process Area – (emission unit ID # HW-PSG4-S013 and HW-PSG4-S018) - Monitoring – CAM** – At all times, the permittee shall maintain the

monitoring equipment, including, but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.
(9VAC5-80-110 and 40 CFR 64.7 (b))

129. **Chemical Recovery Process Area – (emission unit ID # HW-PSG4-S013 and HW-PSG4-S018) - Monitoring – CAM** – Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the permittee shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the black liquor recovery furnace and smelt dissolving tank are operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of compliance assurance monitoring, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The permittee shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by inadequate maintenance or improper operation are not malfunctions.
(9VAC5-80-110 and 40 CFR 64.7 (c))
130. **Chemical Recovery Process Area – (emission unit ID # HW-PSG4-S013 and HW-PSG4-S018) - Monitoring – CAM** – Upon detecting an excursion or exceedance, the permittee shall restore operation of the black liquor recovery furnace and smelt dissolving tank (including the control devices and associated capture systems) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup and shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator, designated condition, or below the applicable emission limitation or standard, as applicable.
(9VAC5-80-110 and 40 CFR 64.7 (d)(1))
131. **Chemical Recovery Process Area – (emission unit ID # HW-PSG4-S013 and HW-PSG4-S018) - Monitoring – CAM** – Determination that acceptable procedures were used in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.
(9VAC5-80-110 and 40 CFR 64.7(d)(2))

132. **Chemical Recovery Process Area – (emission unit ID # HW-PSG4-S013 and HW-PSG4-S018) - Monitoring – CAM** – If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the Piedmont Regional Office and, if necessary, submit a proposed modification to this permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.
(9VAC5-80-110 and 40 CFR 64.7(e))
133. **Chemical Recovery Process Area – (emission unit ID # HW-PSG4-S013 and HW-PSG4-S018) - Monitoring – CAM** – If the number of exceedances or excursions exceeds 5 percent duration of the operating time for the black liquor recovery furnace or the smelt dissolving tank for a semiannual reporting period, the permittee shall develop, implement and maintain a Quality Improvement Plan (QIP) in accordance with 40 CFR 64.8. If a QIP is required, the permittee shall have it available for inspection. The QIP initially shall include procedures for evaluating the control performance problems and, based on the results of the evaluation procedures, the permittee shall modify the plan to include procedures for conducting one or more of the following, as appropriate:
- a. Improved preventative maintenance practices;
 - b. Process operation changes;
 - c. Appropriate improvements to control methods;
 - d. Other steps appropriate to correct control performance; and
 - e. More frequent or improved monitoring.
- (9VAC5-80-110 and 40 CFR 64.8(a) and (b))
134. **Chemical Recovery Process Area – Repair and Maintenance** - For any defect of the individual drain system the permittee shall make first efforts at repair of the defect no later than 5 calendar days after detection and repair shall be completed as soon as possible but no later than 15 calendar days after detection. Repair of a defect may be delayed beyond 15 calendar days if the permittee determines that repair of the defect requires emptying or temporary removal from service of the individual drain system and no alternative capacity is available at the facility site to accept the wastewater normally managed in the individual drain system. In this case the permittee shall repair the defect at the next time the process or unit that is generating the wastewater managed

in the individual drain system stops operation. Repair of the defect shall be completed before the process or unit resumes operation.
(9 VAC 5-80-110, 40 CFR 63.453(l)(1), 40 CFR 63.964(b)(1)&(2), and Condition #49 of 5/9/2014 permit)

135. **Chemical Recovery Process Area – (emission unit ID# HW-PSG4-S013) - NSPS Subpart BB Requirements – Recordkeeping** - The permittee shall calculate and record on a daily basis 12-hour average TRS concentrations of emissions from the recovery furnace for the two consecutive periods of each operating day. Each 12-hour average shall be determined as the arithmetic mean of the appropriate 12 contiguous 1-hour average total reduced sulfur concentrations provided by the continuous monitoring system. The permittee shall also calculate and record on a daily basis 12-hour average oxygen concentrations for the two consecutive periods of each operating day for the recovery furnace. These 12-hour averages shall correspond to the 12-hour average TRS concentrations and shall be determined as an arithmetic mean of the appropriate 12 contiguous 1-hour average oxygen concentrations provided by the continuous monitoring system. The permittee shall correct all 12-hour average TRS concentrations to 8 volume percent oxygen using the following equation:

$$C_{\text{corr}} = C_{\text{meas}} \times \left[21 - \left(\frac{X}{21 - Y} \right) \right]$$

where:

- C_{corr} = the concentration corrected for oxygen
- C_{meas} = the concentration uncorrected for oxygen
- X = 8 percent for the recovery furnace
- Y = the measured 12-hour average volumetric O_2 concentration

(9 VAC 5-80-110 and 40 CFR 60.284(c)(1-3))

136. **Chemical Recovery Process Area – Recordkeeping** - The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content of and format of such records shall be arranged with the Piedmont Regional Office. These records shall include, but are not limited to:
- a. The annual production of air dried tons of paper and kraft pulp, calculated monthly as the sum of each consecutive 12-month period.
 - b. The virgin black liquor solids content of the black liquor fired in the recovery furnace (HW-PSG4-S013) in weight percent, determined monthly
 - c. The annual amount of fuel fired in the black liquor recovery furnace (HW-PSG4-S013), as percent of the maximum heat input capacity of the unit. This shall be calculated monthly by dividing the heat input derived from the fuel over the previous 12 months by the maximum heat input capacity of the unit.

- d. The number, duration, and date of excess emissions from the multiple effect evaporator and crystallizer concentrator system (HW-PSG4-S999A), the measurements obtained from the flow indicator on the NCG bypass line.
 - e. Supplier fuel analysis of all coal shipments purchased.
 - f. Time, date, and duration of periods when non-condensable gases were thermally oxidized in the combination boiler (HW-PSG2-S022/006).
 - g. Monthly calculations showing compliance with the annual hours of operation limitation for incineration of the non-condensable gases in the combination boiler (HW-PSG2-S022/006) as listed in Condition 93.
 - h. Quantitative information concerning the operational status of the lime kiln (HW-CRP2-S022) corresponding to periods when non-condensable gases were thermally oxidized in the combination boiler (HW-PSG2-S022/006) or vented to the atmosphere. This information may include, but is not limited to, parameters such as white liquor sulfidity, white liquor clarity, lime availability, lime kiln excess air oxygen content, temperature of the lime kiln, or other data showing that the lime kiln was not operating normally.
 - i. Results of all stack tests, visible emission evaluations and performance evaluations.
- These records shall be available for inspection by the DEQ and shall be current for the most recent five years.
(9 VAC 5-80-110, 9 VAC 5-50-50, and Condition #52.a-i of 5/9/2014 permit)

137. Chemical Recovery Process Area – MACT Subpart S Requirements-Recordkeeping - For each enclosure opening, closed vent system, and closed collection system,

- a. the permittee shall prepare and maintain a site-specific inspection plan including a drawing or schematic of the components of the following equipment and systems:
 - i. Multiple effect evaporator and crystallizer concentrator system
 - ii. Turpentine decantor
 - iii. Turpentine storage tank
 - iv. UNOX feed tank
 - v. Blow heat accumulator primary and secondary condenser
 - vi. NCG system drain
- b. The permittee shall record the following information for each inspection:
 - i. Date of inspection;
 - ii. The equipment type and identification;

- iii. Results of negative pressure tests for enclosures;
- iv. Results of leak detection tests;
- v. Nature of the defect or leak and the method of detection (i.e., visual inspection or instrument detection);
- vi. Date the defect or leak was detected and the date of each attempt to repair the defect or leak as well as location of each defect or leak;
- vii. Repair methods applied in each attempt to repair the defect or leak;
- viii. Reason for the delay if the defect or leak is not repaired within 15 days after discovery;
- ix. Expected date of successful repair of the defect or leak if the repair is not completed within 15 days;
- x. Date of the successful repair of the defect or leak;
- xi. The position and duration of opening of bypass line valves and the condition of any valve seals; and
- xii. The duration of the use of bypass valves on computer controlled valves.

(9 VAC 5-80-110, 40 CFR 63.454(b), and Condition #53 of 5/9/2014 permit)

138. **Chemical Recovery Process Area – (emission unit ID# HW-PSG4-S013 and HW-PSG4-S018) - MACT Subpart MM Requirements- Recordkeeping** – The permittee shall maintain all emission data and operating parameters necessary to demonstrate compliance with Subpart MM. These records shall include, but are not limited to the following:

- a. Records of any occurrence when corrective action is required under §63.864(k)(1) and when a violation is noted under §63.864(k)(2).
- b. Records of information in 40 CFR 63.866(c)(1) through (8) as applicable in addition to the general records required by 40 CFR 63.10(b)(2).
- c. In accordance with §63.866(d), records of each failure to meet an applicable standard, including any emission limit in §63.862 or any opacity or CPMS operating limit in §63.864.

(9 VAC 5-80-110, 40 CFR 63.866 (b), (c) and (d))

139. **Chemical Recovery Process Area – (emission unit ID # HW-PSG4-S013 and HW-PSG4-S018) - Recordkeeping – CAM** – The permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan (QIP) required pursuant to §64.8 and any activities undertaken to implement a quality improvement plan (QIP), and other supporting

information required to be maintained under this part (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions).

(9VAC5-80-110 and 40 CFR 64.9(b))

140. **Chemical Recovery Process Area – (emission unit ID# HW-PSG4-S013) - Testing**
– At an interval not to exceed five years, the facility shall conduct performance tests for particulate matter, sulfur dioxide, and total reduced sulfur from the exhaust of the recovery furnace to determine compliance with all emission limitations listed in Conditions 11 and 86. Tests shall be conducted at no less than 80 percent of the maximum rated capacity of the recovery furnace. Tests shall be conducted and reported and data reduced as set forth in 9 VAC 5-50-30. The details of the tests are to be arranged with the Piedmont Regional Office. The permittee shall submit a test protocol at least 30 days prior to testing. One copy of the test results shall be submitted to the Piedmont Regional Office within 45 days after test completion and shall conform to the test report format enclosed with this permit.
(9 VAC 5-80-110)
141. **Chemical Recovery Process Area – (emission unit ID# HW-PSG4-S013 and HW-PSG4-S018) - MACT Subpart MM Requirements- Testing** – The owner or operator shall conduct performance tests using the test methods and procedures listed in §63.7 and §63.865(b). The first of the 5-year periodic performance tests must be conducted by October 13, 2020, and thereafter within 5 years following the previous performance test. Performance tests shall be conducted based on representative performance (i.e. performance based on normal operating conditions) of the affected source for the period being tested. The permittee must record the process information that is necessary to document operating conditions during the test and include in such record an explanation to support that such conditions represent normal operation. Upon request, the permittee shall make available to the Administrator such records as may be necessary to determine the conditions of the performance tests. Within 60 days after the date of completing each performance test the permittee shall submit the results of the performance test following the procedure specified in §63.867(d)(1)(i) or (d)(1)(ii) and be submitted to the Piedmont Regional Office.
(9 VAC 5-80-110, 40 CFR 63.863(c), 40 CFR 63.865, and 40 CFR 63.867(d)(1))
142. **Chemical Recovery Process Area – (emission unit ID# HW-PSG4-S018) - Testing -**
At an interval not to exceed five years, the facility shall conduct performance tests for particulate matter and TRS from the exhaust of the scrubber controlling the smelt dissolving tank to determine compliance with all emission limitations listed in Condition 92. Tests shall be conducted and reported and data reduced as set forth in 9 VAC 5-50-30. Test reports shall contain readings taken every five minutes during each test run from all gauges associated with the scrubber. The test report shall also contain the average measurement for each gauge during each test that shows compliance with the standards. The details of the tests are to be arranged with the Piedmont Regional Office. The permittee shall submit a test protocol at least 30 days prior to testing. One

copy of the test results shall be submitted to the Piedmont Regional Office within 45 days after test completion and shall conform to the test report format enclosed with this permit.

(9 VAC 5-80-110)

143. **Chemical Recovery Process Area - (emission unit ID# HW-PSG4-S013 and HW-PSG4-S018) – MACT Subpart MM Requirements - Reporting** – The permittee shall submit quarterly excess emissions reports containing the information specified in 40 CFR 63.867(c)(1) through (c)(5). The reports shall be submitted following the procedures specified in 40 CFR 63.867(d)(2) as specified in 40 CFR 63.10(e)(3)(v). If applicable, notifications and reports shall be submitted in accordance with §63.867(d)(3) and/or (d)(4). All notifications and reports shall be submitted to the Piedmont Regional Office.
(9 VAC 5-80-110, 9 VAC 5-50-50C, and 40 CFR 63.867(c) and (d))

144. **Chemical Recovery Process Area - (emission unit ID# HW-PSG4-S013 and HW-PSG4-S018) – CAM- Reporting** – The permittee shall submit CAM reports as part of the Title V semi-annual monitoring reports required by General Condition 220 of this permit to the Piedmont Regional Office. Such reports shall include at a minimum:
- a. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;
 - b. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and
 - c. A description of the actions taken to implement a quality improvement plan (QIP) during the reporting period as specified in §64.8. Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

(9VAC5-80-110 F and 40 CFR 64.9(a))

Co-Product Recovery Process Area Applicable Requirements- (emission unit ID#HW-CT01-V009, HW-CST1-V001A and HW-CST1-V001B)

145. **Co-Product Recovery Process Area – (emission unit ID# HW-CT01-V009)**
Limitations - RACT for the tall oil batch reactor vent within the co-product recovery area within the Hopewell Mill shall be a packed tower scrubber (HW-CT01-CD009). The VOC removal efficiency of the scrubber shall be 15 percent.
(9 VAC 5-80-110)

146. **Co-Product Recovery Process Area – (emission unit ID# HW-CST1-V001A and V001B) - MACT Subpart S Requirements - Limitations** The total HAP emissions from the turpentine recovery system shall be controlled. The equipment shall be enclosed and vented into a closed-vent system and routed to the combination boiler or the lime kiln. The HAP emission stream shall be introduced with the primary fuel or into the flame zone.
(9 VAC 5-80-110 and 40 CFR 63.443(a)(1)(i), 40 CFR 63.443(c), 40 CFR 63.443(d)(4)(i))
147. **Co-Product Recovery Process Area – MACT Subpart S Requirements – Limitations** - The pulping process condensates from the turpentine recovery system shall be conveyed in a closed collection system that is designed and operated to meet the requirements specified in 40 CFR 63.446(d)(1) and (2). The pulping process condensates from the turpentine recovery system shall be treated by discharging the pulping process condensate below the liquid surface of a biological treatment system that shall reduce or destroy the total HAPs by at least 92 percent or more by weight and total HAP shall be measured as specified in 40 CFR 63.457(g).
(9 VAC 5-80-110 and 40 CFR 63.446(b), (c)(1), and (d), 40 CFR 63.446(e)(2)&(3))
148. **Co-Product Recovery Process Area – MACT Subpart S Requirements – Limitations** - The fixed roof and all openings (e.g., access hatches, sampling ports, gauge wells) of the condensate tank used in the closed collection system shall be designed and operated with no detectable leaks as indicated by an instrument reading of less than 500 parts per million above background, and vented into a closed-vent system that meets the requirements in 63.450 and shall be routed to the combination boiler or lime kiln, where the HAP emission stream shall be introduced with the primary fuel or into the flame zone and meets the requirements in 40 CFR 63.446(d)(2)(ii).
(9 VAC 5-80-110 and 40 CFR 63.446(d)(2), 40 CFR 63.443(d))
149. **Co-Product Recovery Process Area – (emission unit ID# HW-CT01-V009) - Monitoring** - The scrubber (HW-CT01-CD009) controlling the tall oil batch reactor shall operate with a minimum pressure differential as determined during performance testing. The scrubber differential pressure (gas pressure difference between scrubber inlet and outlet) shall be continuously recorded. The permittee shall keep records and provide an explanation when the average pressure differential varies from the optimum operating pressure differential by more than 2 psig, established during the most recent performance test that demonstrated compliance, for a period of time in excess of 5 minutes during the batch reaction steaming phase. This information shall be maintained at the facility for the most recent five years. Notification of a malfunction shall be given in accordance with the SAPCB regulations.
(9 VAC 5-80-110)
150. **Co-Product Recovery Process Area – Recordkeeping** - The permittee shall maintain records of all operating parameters necessary to demonstrate compliance with this permit. These records shall be maintained for the tall oil batch reactor vent packed

tower scrubber and associated monitoring equipment for the pressure differential, and shall include, but are not limited to, all of the following:

- a. A maintenance schedule
- b. Scheduled and unscheduled maintenance records
- c. Inventory of spare parts that are needed to minimize the duration of equipment breakdowns
- d. Written operating procedures;
- e. Packed tower scrubber differential pressure (instantaneous readings and continuous recorded readings)
- f. Beginning and ending times of the batch reactor steaming phase.

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five years.
(9 VAC 5-80-110)

151. **Co-Product Recovery Process Area – (emission unit ID# HW-CT01-V009) - Reporting** - Quarterly, the permittee shall report all excursions in differential pressure of the scrubber (HW-CT01-CD009) controlling the tall oil batch reactor recorded for that time period, along with the explanation for each excursion and actions taken to correct the excursion. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter.
(9 VAC 5-80-110)

Paper Mill Process Area Applicable Requirements- (emission unit ID#HW-PAM1-F031, HW-PAM1-S001, HW-PAM1-S001/S002, HW-PAM1-S011, HW-PAM1-S012, HW-PAM1-S016, HW-PAM1-S999 and HW-PAM-V998)

152. **Paper Mill Process Area – Limitations** - Visible emissions from the batch cleaning operation for the paper machine (HW-PAM1-F031), paper machine vacuum pump (HW-PAM1-S001), paper machine vacuum pump (HW-PAM1-S002), dryer hood (HW-PAM1-S016), high density storage chest (HW-PAM1-V998a), and high density storage chest (HW-PAM1-V998b) shall not exceed 20 percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 60 percent opacity.
(9 VAC 5-40-80 and 9 VAC 5-80-110)
153. **Paper Mill Process Area – Limitations** - Visible emissions from the wet end fourdrinier (HW-PAM1-S011), paper machine press section (HW-PAM1-S012), and paper mill process area (HW-PAM1-S999) shall not exceed 20 percent opacity except

during one six-minute period in any one hour in which visible emissions shall not exceed 30 percent opacity.
(9 VAC 5-50-80 and 9 VAC 5-80-110)

154. **Paper Mill Process Area – Limitations - Emission Limits** - Emissions from the operation of the paper machine (HW-PAM1-S001, HW-PAM1-S001/S002, HW-PAM1-S011, HW-PAM1-S012, HW-PAM1-S016, HW-PAM1-F031) shall not exceed the limitations specified below:

Volatile Organic Compounds (as carbon): 26.1 lbs/hr (9 VAC 5-50-260)

Compliance with this emission limit is achieved and determined by use of the clean condensate alternative under 40 CFR 63, Subpart S consistent with Condition 155 of this permit.

(9 VAC 5-80-110 and Condition #32 of 5/9/2014)

155. **Paper Mill Process Area – Limitations - VOC emissions** from the paper machine (HW-PAM1-S001, HW-PAM1-S001/S002, HW-PAM1-S011, HW-PAM1-S012, HW-PAM1-S016, HW-PAM1-F031) shall be controlled by complying with the clean condensate alternative under 40 CFR 63, Subpart S.
(9 VAC 5-80-110 and Condition #15 of the 5/9/2014 permit)

156. **Paper Mill Process Area – Monitoring** - The permittee shall perform a visible emission observation (VEO) in accordance with 40 CFR 60, Appendix A, Method 22 on the exhaust stacks of the paper machine (HW-PAM1-F031), paper machine vacuum pump (HW-PAM1-S001), paper machine vacuum pump (HW-PAM1-S002), dryer hood (HW-PAM1-S016), high density storage chest (HW-PAM1-V998a), and high density storage chest (HW-PAM1-V998b) at least one time per month that each unit is operated. If visible emissions are observed, the permittee shall take timely corrective actions such that the systems resume operation with no visible emissions, or perform a visible emission evaluation (VEE) in accordance with 40 CFR 60, Appendix A, Method 9 to assure visible emissions from the systems do not exceed 20 percent opacity. The VEE shall be conducted for a minimum of six minutes. If compliance is not demonstrated by this VEE, timely corrective action shall be taken such that the systems resume operation with visible emissions of 20 percent or less. The permittee shall maintain an observation log to demonstrate compliance. The log shall include the date and time of the observations, whether or not there were visible emissions, any VEE recordings and any necessary actions.
(9 VAC 5-80-110)

157. **Paper Mill Process Area – Monitoring** - The permittee shall perform a visible emission observation (VEO) in accordance with 40 CFR 60, Appendix A, Method 22 on the exhaust stacks of the wet end fourdrinier (HW-PAM1-S011), paper machine press section (HW-PAM1-S012), and paper mill process area (HW-PAM1-S999) at least one time per month that each unit is operated. If visible emissions are observed, the permittee shall take timely corrective actions such that the systems resume

operation with no visible emissions, or perform a visible emission evaluation (VEE) in accordance with 40 CFR 60, Appendix A, Method 9 to assure visible emissions from the systems do not exceed 20 percent opacity. The VEE shall be conducted for a minimum of six minutes. If compliance is not demonstrated by this VEE, timely corrective action shall be taken such that the systems resume operation with visible emissions of 20 percent or less. The permittee shall maintain an observation log to demonstrate compliance. The log shall include the date and time of the observations, whether or not there were visible emissions, any VEE recordings and any necessary actions.

(9 VAC 5-80-110)

Power Generation Process Area Applicable Requirements- (emission unit ID#HW-PSG2-F002, F003, F004, HW-PSB3-F001, F002, F003 and HW-PSG2-S022/S006)

158. **Power Generation Process Area – Limitations** - Visible emissions from the cooling tower (HW-PSB3-F001), cooling tower (HW-PSB3-F002), and cooling tower (HW-PSB3-F003) shall not exceed 20 percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 30 percent opacity.
(9 VAC 5-50-80 and 9 VAC 5-80-110)
159. **Power Generation Process Area – Limitations** - Volatile organic compound (VOC) and carbon monoxide (CO) emissions from the combination boiler (HW-PSG2-S022/006) shall be controlled by combustion air and combustion controls and the use of clean-burning fuel to comply with the CO and VOC emission limits set forth in Condition 165 of this permit.
(9 VAC 5-80-110 and Condition #5 of 5/9/2014 permit)
160. **Power Generation Process Area – Limitations** - Particulate emissions from the combination boiler (HW-PSG2-S022/006) shall be controlled by a multicyclone followed by an electrostatic precipitator (HW-PSG2-CD022) with a combined design control efficiency of 99.5 percent. The permittee shall conduct an annual external inspection on the multicyclone. The permittee shall conduct an internal inspection on the multicyclone no more than 30 months from the previous internal inspection to insure structural integrity. The multicyclone and electrostatic precipitator shall be provided with adequate access for inspection.
(9 VAC 5-80-110 and Condition #2 of 5/9/2014 permit)
161. **Power Generation Process Area – Limitations** - Sulfur dioxide emissions from the combination boiler (HW-PSG2-S022/006) shall be controlled by the use of low sulfur coal (1.2 percent sulfur content by weight maximum).
(9 VAC 5-80-110 and Condition #3 of 5/9/2014 permit)

162. **Power Generation Process Area – Limitations** - Nitrogen oxides emissions from the combination boiler (HW-PSG2-S022/006) shall be controlled by the use of off-stoichiometric firing with secondary air supply.
(9 VAC 5-80-110 and Condition #4 of 5/9/2014 permit)

163. **Power Generation Process Area – Limitations** - Emissions from the operation of the combination boiler (HW-PSG2-S022/006) shall not exceed the limitations specified below:

Pollutant	Determination Method	When firing coal or coal and wood residue	When firing 100% wood residue	When firing natural gas
Filterable PM	Reference Method 5	0.1 lbs/MMBtu (NSPS D) 72.8 lb/hr	0.1 lbs/MMBtu (NSPS D) 44.3 lbs/hr	0.1 lbs/MMBtu (NSPS D)
Sulfur Dioxide	Reference Method 6 or alternative method*	1.2 lbs/MMBtu (NSPS D) 868.0 lbs/hr	1.2 lbs/MMBtu (NSPS D) 531.0 lbs/hr	
Nitrogen Oxides (as NO ₂)	Reference Method 7 or alternative method*	0.7 lbs/MMBtu (NSPS D) 500 lbs/hr	0.7 lbs/MMBtu (NSPS D) 310.0 lbs/hr	0.2 lbs/MMBtu (NSPS D)

*alternative determination method approved by DEQ

(9 VAC 5-80-110, Condition #23 of 5/9/2014 permit, 40 CFR 60.42(a)(1), 40 CFR 60.43(a)(2) and 40 CFR 60.44(a)(1) & (3))

164. **Power Generation Process Area – Limitations – Visible Emission Limit** – Visible emissions from the combination boiler (HW-PSG2-S022/006) shall not exceed 20 percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 27 percent opacity as determined by the EPA Method 9 (reference 40 CFR 60, Appendix A)
(9 VAC 5-80-110, Condition #26 of 5/9/2014 permit, and 40 CFR 60.42(a)(2))

165. **Power Generation Process Area – Limitations** - Emissions from the operation of the combination boiler (HW-PSG2-S022/006) shall not exceed the limitations (determined as 3-hour averages) specified below:

Carbon Monoxide 212.6 lbs/hr

Volatile Organic 8.6 lbs/hr

Compounds (as carbon)

(9 VAC 5-80-110 and Condition #24 of 5/9/2014 permit)

166. **Power Generation Process Area – Limitations** - Approved fuels for the combination boiler (HW-PSG2-S022/006) include bituminous coal, wood residue, fuel oil, and natural gas. Propane may be used as an igniter fuel for SSM during periods of natural gas curtailment. A change in fuels may require a permit to modify and operate.
(9 VAC 5-80-110 and Condition #16 & 17 of 5/9/2014 permit)

167. **Power Generation Process Area – Limitations** - The sulfur content of the coal to be burned in the combination boiler (HW-PSG2-S022/006) shall not exceed 1.2 percent by

weight per shipment. The permittee shall maintain records (including fuel analysis for sulfur content) of all coal shipments purchased. These records shall be available for inspection by the DEQ. Such records shall be current for the most recent five years. (9 VAC 5-80-110 and Condition #20 of 05/9/2014 permit)

168. **Power Generation Process Area - NSPS Subpart Y Requirements– Limitations -** Coal processing, conveying, and storage equipment (HW-PSG2-F002, F003, F004) shall not exhibit opacity greater than 20 percent, as measured by 40 CFR 60 Appendix A, Method 9.
(9 VAC 5-80-110 and 40 CFR 60.254(a))
169. **Power Generation Process Area – MACT Subpart DDDDD Requirements-** Except where this permit is more restrictive than the applicable requirement, the combination boiler (HW-PSG2-S022/006) shall be operated in compliance with all applicable requirements of MACT DDDDD- National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters. The combination boiler is considered an existing hybrid suspension/grate boiler designed to burn wet biomass/bio-based solid as defined in 40 CFR 63.7490(d) and 63.7575. The requirements are as follows:

Citation	Requirement
63.7500(a)(1) and Table 2(1)(13)	Emission Limits
63.7500(a)(2) and Table 4(4)(7)(8)	Operating Limits
63.7500(a)(3)(f) and Table 3(3-6)	Work Practice Standards
63.7505(a) &(c)	Compliance Requirements
63.7505(d)	Site-Specific Monitoring Plan
63.7505(e)	Startup and Shutdown Plan
63.7515(a-d & f)	Performance Test Time Limits
63.7520 and Table 5(1) &(3-5)	Performance Test Requirements
Table 7(1)(c), (4)(5)	Establishing Operating Limits
63.7525(a)	CO Monitoring Requirements
63.7525(c)	Opacity Monitoring Requirements
63.7535	Monitoring Data Requirements
63.7540(a)(1)(2)(4)(6)(8)(10)(13)(19)(a)(b)(d) and Table 8(1)(9)(10)	Continuous Compliance
63.7545(a) &(d)	Notification Requirements
63.7550 and Table 9	Reporting Requirements
63.7555(a)(1)&(2),(b)(c)(d)(1)(3-7)(9-11) and 63.7560	Recordkeeping Requirements
63.7565 and Table 10	General Provisions

(9 VAC 5-80-110 and 40 CFR 63 Subpart DDDDD)

170. **Power Generation Process Area – Monitoring -** The permittee shall perform a visible emission observation (VEO) in accordance with 40 CFR 60, Appendix A, Method 22 on the exhaust stacks of the coal processing, conveying, and storage equipment (HW-

PSG2-F002, F003, F004) at least one time per month that each unit is operated. If visible emissions are observed, the permittee shall take timely corrective actions such that the systems resume operation with no visible emissions, or perform a visible emission evaluation (VEE) in accordance with 40 CFR 60, Appendix A, Method 9 to assure visible emissions from the systems do not exceed 20 percent opacity. The VEE shall be conducted for a minimum of six minutes. If compliance is not demonstrated by this VEE, timely corrective action shall be taken such that the systems resume operation with visible emissions of 20 percent or less. The permittee shall maintain an observation log to demonstrate compliance. The log shall include the date and time of the observations, whether or not there were visible emissions, any VEE recordings and any necessary actions.
(9 VAC 5-80-110)

171. **Power Generation Process Area – Monitoring** - The permittee shall perform a visible emission observation (VEO) in accordance with 40 CFR 60, Appendix A, Method 22 on the exhaust stacks of the cooling towers (HW-PSB3-F001, F002, F003) at least one time per month that each unit is operated. If visible emissions are observed, the permittee shall take timely corrective actions such that the systems resume operation with no visible emissions, or perform a visible emission evaluation (VEE) in accordance with 40 CFR 60, Appendix A, Method 9 to assure visible emissions from the systems do not exceed 20 percent opacity. The VEE shall be conducted for a minimum of six minutes. If compliance is not demonstrated by this VEE, timely corrective action shall be taken such that the systems resume operation with visible emissions of 20 percent or less. The permittee shall maintain an observation log to demonstrate compliance. The log shall include the date and time of the observations, whether or not there were visible emissions, any VEE recordings and any necessary actions.
(9 VAC 5-80-110)
172. **Power Generation Process Area – Monitoring** - The following continuous emission monitoring systems (CEMs) shall be installed on the exhaust of the combination boiler (HW-PSG2-S022/006):

- a. A CEM to measure and record the opacity of stack gases;
- b. A CEM to measure and record the concentration of sulfur dioxide in the stack gases;
- c. A CEM to measure and record the concentration of nitrogen oxides in the stack gases; and
- d. A CEM to measure and record the oxygen or carbon dioxide concentration in the stack gases.

All of the CEM calculation, data reduction, record keeping, and reporting requirements of NSPS Subpart D shall apply.

(9 VAC 5-80-110, Condition #35 of 5/9/2014 permit, and 40 CFR 60.45(a))

173. **Power Generation Process Area – Monitoring** - All continuous monitoring systems required under Subpart D shall be subject to 40 CFR 60.13 upon promulgation of the performance specifications for continuous monitoring systems under Appendix B of 40 CFR 60. This condition specifically applies to the NO_x monitor, SO₂ monitor, diluent monitors, and opacity monitor on the combination boiler (HW-PSG2-S022/006).
(9 VAC 5-80-110 and 40 CFR 60.13(a))
174. **Power Generation Process Area – Monitoring** - The permittee shall check the zero (or low level value between 0 and 20 percent of span value) and span (50 to 100 percent of span value) calibration drifts on the continuous monitoring systems of the combination boiler (HW-PSG2-S022/006) at least once daily in accordance with a written procedure. The zero and span shall, as a minimum be adjusted whenever the 24 hour zero drift or 24 hour span drift exceeds two times the limits of the applicable performance specifications in Appendix B of 40 CFR 60. The system must allow the amount of excess zero and span drift measured at the 24 hour interval checks to be recorded and quantified. For continuous monitoring systems measuring the opacity of emissions from the combination boiler (HW-PSG2-S022/006), the optical surfaces exposed to the effluent gases shall be cleaned prior to performing the zero and span drift adjustments except for systems using automatic zero adjustments. The optical surfaces shall be cleaned when the cumulative automatic zero compensation exceeds 4 percent opacity.
(9 VAC 5-80-110 and 40 CFR 60.13(d)(1))
175. **Power Generation Process Area – Monitoring** - Minimum procedures for continuous monitoring systems measuring opacity of emissions from the combination boiler (HW-PSG2-S022/006) shall include a method for producing a simulated zero opacity condition and an upscale (span) opacity condition using a certified neutral density filter or other related technique to produce a known obscuration of the light beam. Such procedures shall provide a system check of the analyzer internal optical surfaces and all electronic circuitry including the lamp and photo detector assembly.
(9 VAC 5-80-110 and 40 CFR 60.13(d)(2))
176. **Power Generation Process Area – Monitoring** - Except for system breakdowns, repairs, calibration checks, and zero and span adjustments required, all continuous monitoring systems on the combination boiler (HW-PSG2-S022/006) shall be in continuous operation and shall meet minimum frequency of operation requirements as follows:
- a. All continuous monitoring systems for measuring opacity of emissions shall complete a minimum of one cycle of sampling and analyzing for each successive 10 second period and one cycle of data recording for each successive 6 minute period.
 - b. All continuous monitoring systems for measuring emissions, except opacity, shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15 minute period.
- (9 VAC 5-80-110 and 40 CFR 60.13(e))

177. **Power Generation Process Area – Monitoring** - All continuous monitoring systems or monitoring devices shall be installed such that representative measurements of emissions or process parameters from the affected facility are obtained. Additional procedures for location of continuous monitoring systems contained in the applicable Performance Specifications of 40 CFR 60 Appendix B of this part shall be used. (9 VAC 5-80-110 and 40 CFR 60.13(f))
178. **Power Generation Process Area – Monitoring** - For the continuous emission monitoring systems monitoring the combination boiler (HW-PSG2-S022/006), the permittee shall reduce all data from continuous monitoring systems for measurement of opacity to 6 minute averages and for continuous monitoring system other than opacity to 1 hour averages. Six minute opacity averages shall be calculated from 36 or more data points equally spaced over each 6 minute period. For continuous monitoring systems other than opacity, 1 hour averages shall be computed from four or more data points equally spaced over each 1 hour period. Data recorded during periods of continuous system breakdown, repair, calibration checks, and zero and span adjustments shall not be included in the data averages computed under this paragraph. An arithmetic or integrated average of all data may be used. The data may be recorded in reduced or nonreduced form (e.g., ppm pollutant and percent O₂ or ng/J of pollutant). All excess emissions shall be converted into units of the standard using the applicable conversion procedures specified in 40 CFR 60. After conversion into units of the standard, the data may be rounded to the same number of significant digits as used in the applicable subparts to specify the emission limit (e.g., rounded to the nearest 1 percent opacity). (9 VAC 5-80-110 and 40 CFR 60.13(h))
179. **Power Generation Process Area – NSPS Subpart D Requirements - Monitoring** - For performance evaluations and calibration checks, the following procedures shall be used:
- Methods 6, 7, and 3B, as applicable, shall be used for the performance evaluations of sulfur dioxide and nitrogen oxides continuous monitoring systems.
 - Sulfur dioxide or nitric oxide, as applicable shall be used for preparing calibration gas mixtures under Performance Specification 2 of Appendix B to 40 CFR 60.
 - The span value for the continuous monitoring system measure the opacity of emissions shall be 80, 90, or 100 percent, for the continuous monitoring system measuring sulfur dioxides the span value shall be 1,500 ppm, and for the continuous monitoring system measuring nitrogen oxides, the span value shall be 1,000 ppm. (9 VAC 5-80-110 and 40 CFR 60.45(c))
180. **Power Generation Process Area – Monitoring** - For any continuous monitoring system installed under Condition 172, the conversion procedures under 40 CFR

60.45e.1 through 2 shall be used to convert the continuous monitoring data into units of the applicable standard, lbs/MMBtu.
(9 VAC 5-80-110 and 40 CFR 60.45(e))

181. **Power Generation Process Area – Monitoring** - The permittee shall develop and implement a quality assurance plan for the continuous emission monitors on the combination boiler. At a minimum the plan shall provide for daily calibration drift checks, periodic preventative maintenance, and annual audits, including annual cylinder gas audits for the sulfur dioxide and nitrogen oxide monitors. Section 3 of Procedure 1 of Appendix F of 40 CFR 60 may be used as a guide by which to pattern the plan. Audit information shall be submitted with semiannual excess emission and summary report form information. The permittee shall keep the written quality assurance plan on record to be made available for inspection by the DEQ. In addition, if the plan is revised, the permittee shall keep previous versions of the plan on record, to be made available for inspection, upon request, by the DEQ, for a period of five years after each revision to the plan.
(9 VAC 5-80-110 and 40 CFR 60.13(a))
182. **Power Generation Process Area – (emission unit ID#HW-PSG2-S022/006) - Monitoring – CAM** - The permittee shall monitor, operate, calibrate and maintain the electrostatic precipitator controlling the combination boiler according to the CAM plan in this permit.
(9VAC5-80-110 and 40 CFR 64.6 (c))
183. **Power Generation Process Area – (emission unit ID#HW-PSG2-S022/006) - Monitoring – CAM** - The permittee shall conduct the monitoring and fulfill the other obligations specified in 40 CFR 64.7 through 40 CFR 64.9.
(9VAC5-80-110 and 40 CFR 64.6 (c))
184. **Power Generation Process Area – (emission unit ID#HW-PSG2-S022/006) - Monitoring – CAM** - At all times, the permittee shall maintain the monitoring equipment, including, but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.
(9VAC5-80-110 and 40 CFR 64.7 (b))
185. **Power Generation Process Area – (emission unit ID#HW-PSG2-S022/006) - Monitoring – CAM** - Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the permittee shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the combination boiler is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of compliance assurance monitoring, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The permittee shall use all the data collected during all other periods in

assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by inadequate maintenance or improper operation are not malfunctions.

(9VAC5-80-110 and 40 CFR 64.7 (c))

186. Power Generation Process Area – (emission unit ID#HW-PSG2-S022/006) -

Monitoring – CAM - Upon detecting an excursion or exceedance, the permittee shall restore operation of the combination boiler (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup and shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator, designated condition, or below the applicable emission limitation or standard, as applicable.

(9VAC5-80-110 and 40 CFR 64.7 (d)(1))

187. Power Generation Process Area – (emission unit ID#HW-PSG2-S022/006) -

Monitoring – CAM - Determination that acceptable procedures were used in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.

(9VAC5-80-110 and 40 CFR 64.7(d)(2))

188. Power Generation Process Area – (emission unit ID#HW-PSG2-S022/006) -

Monitoring – CAM - If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the Piedmont Regional Office and, if necessary, submit a proposed modification to this permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

(9VAC5-80-110 and 40 CFR 64.7(e))

189. Power Generation Process Area – (emission unit ID#HW-PSG2-S022/006) -

Monitoring – CAM - If the number of exceedances or excursions exceeds 5 percent

duration of the operating time for the combination boiler for a semiannual reporting period, the permittee shall develop, implement and maintain a Quality Improvement Plan (QIP) in accordance with 40 CFR 64.8. If a QIP is required, the permittee shall have it available for inspection. The QIP initially shall include procedures for evaluating the control performance problems and, based on the results of the evaluation procedures, the permittee shall modify the plan to include procedures for conducting one or more of the following, as appropriate:

- a. Improved preventative maintenance practices;
 - b. Process operation changes;
 - c. Appropriate improvements to control methods;
 - d. Other steps appropriate to correct control performance; and
 - e. More frequent or improved monitoring.
- (9VAC5-80-110 and 40 CFR 64.8(a) and (b))

190. **Power Generation Process Area – Recordkeeping** – The permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the combination boiler (HW-PSG2-S022/006); any malfunction of the air pollution control equipment (HW-PSG2-CD022, electrostatic precipitator), or any periods during which the continuous monitoring systems are inoperative.
(9 VAC 5-80-110 and 40 CFR 60.7(b))
191. **Power Generation Process Area – Recordkeeping** - The permittee shall maintain records of the monthly observations made of the coal process, conveying, and storage equipment. These records shall include, at a minimum, the name and signature of the observer; the date and time of the observances; Method 9 readings taken if any; and trouble shooting and corrective actions taken, if any.
(9 VAC 5-80-110)
192. **Power Generation Process Area – Recordkeeping** - The permittee shall maintain records of the monthly observations made of the cooling towers. These records shall include, at a minimum, the name and signature of the observer; the date and time of the observances; Method 9 readings taken if any; and trouble shooting and corrective actions taken, if any.
(9 VAC 5-80-110)
193. **Power Generation Process Area – Recordkeeping** - The permittee shall maintain records of the emission factors, equations, and equipment ratings used to calculate the emissions from the cooling tower (HW-PSB3-F001, F002, and F003).
(9 VAC 5-80-110)
194. **Power Generation Process Area – Recordkeeping** - The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate

compliance with this permit. The content of and format of such records shall be arranged with the Piedmont Regional Office. These records shall include, but are not limited to supplier fuel analysis of all coal shipments purchased.
(9 VAC 5-80-110 and 9 VAC 5-50-50)

195. **Power Generation Process Area – (emission unit ID#HW-PSG2-S022/006) - Recordkeeping – CAM** - The permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan (QIP) required pursuant to §64.8 and any activities undertaken to implement a quality improvement plan (QIP), and other supporting information required to be maintained under this part (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions).
(9VAC5-80-110 and 40 CFR 64.9(b))
196. **Power Generation Process Area – Testing** - At an interval not to exceed five years, the facility shall conduct performance tests for particulate matter, sulfur dioxide, nitrogen oxides, carbon monoxide and volatile organic compounds on the exhaust from the combination boiler (HW-PSG2-S022/006) and electrostatic precipitator (HW-PSG2-CD022) to determine compliance with all emission limitations in conditions 11, 163 and 165. Tests shall be conducted at no less than 80 percent of maximum rated capacity for each fuel type/mix. The details of the tests are to be arranged with the Piedmont Regional Office. The permittee shall submit a test protocol at least 30 days prior to testing. One copy of the test results shall be submitted to the Piedmont Regional Office within 45 days after test completion and shall conform to the test report format enclosed with this permit.
(9 VAC 5-80-110)
197. **Power Generation Process Area – Reporting** - Excess emission and monitoring system performance reports shall be submitted to the Administrator and the Piedmont Regional Office quarterly for each three month period in the calendar year. All quarterly reports shall be postmarked by the 30th day following the end of each three month period. Each excess emission and monitoring system performance report shall include the information required in 40 CFR 60.7(c). Periods of excess emissions and monitoring systems downtime that shall be reported are defined as follows:
- a. **Opacity:** Excess emissions are defined as any six minute period during which the average opacity of emissions exceeds 20 percent opacity, except that one six-minute average per hour of up to 27 percent opacity need not be reported.
 - b. **Sulfur Dioxide:** Excess emissions are defined as any three hour period during which the average emissions (arithmetic average of three contiguous one hour periods) of sulfur dioxide as measured by a continuous monitoring system exceed 1.2 lb/MMBtu.

- c. Nitrogen oxides: Excess emissions are defined as any three hour period during which the average emissions (arithmetic average of three contiguous one hour periods) exceed 0.7 lbs/MMBtu.

(9 VAC 5-80-110, 9 VAC 5-50-50C and 40 CFR 60.45(g))

- 198. **Power Generation Process Area – Reporting** – Quarterly excess emission reports shall also contain records of dates of shipments of coal received that had an S content of more than 1.2 percent by weight, and records of monthly visible emissions observations recorded according to 192 as well as any Method 9 data measured and any corrective actions taken.

(9 VAC 5-80-110)

- 199. **Power Generation Process Area – (emission unit ID#HW-PSG2-S022/006) - Reporting – CAM** - The permittee shall submit CAM reports as part of the Title V semi-annual monitoring reports required by General Condition 220 of this permit to the Piedmont Regional Office. Such reports shall include at a minimum:

- a. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;
- b. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and
- c. A description of the actions taken to implement a quality improvement plan (QIP) during the reporting period as specified in §64.8. Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

(9VAC5-80-110 F and 40 CFR 64.9(a))

Miscellaneous Emission Sources Applicable Requirements- (emission unit ID#HW-MNT1-F007, F001a, F001b, F001c, F001d, HP-RIC-GDK, HP-RIC-PGP, HP-RIC-GAC, HP-RIC-DF4 and HP-RIC-DGS)

- 200. **Miscellaneous Emission Sources – Limitations** - The permittee shall prevent the discharge into the atmosphere of at least 85 percent by weight of volatile organic compound emissions from the cold cleaning machines (HW-MNT1-F007, HW-MNT1-F001a, HW-MNT1-F001b, HW-MNT1-F001c and HW-MNT1-F001d)

(9 VAC 5-80-110 and 9 VAC 5-40-3280 C.1.)

- 201. **Miscellaneous Emission Sources – Limitations** - The reservoirs of the cold cleaning machines (HW-MNT1-F007, HW-MNT1-F001a, HW-MNT1-F001b, HW-MNT1-F001c and HW-MNT1-F001d) shall be provided with covers that are designed so that

they can easily be operated with one hand. Drainage facilities should be provided to collect and return the solvent to a closed container. The solvent spray should be a solid, fluid stream (not a fine, atomized or shower type spray) and at a pressure that does not cause excessive splashing.

(9 VAC 5-80-110, 9 VAC 5-40-3290 C.1.a, 9 VAC 5-40-3290 C.1.b., 9 VAC 5-40-3290 C.1.d.)

202. **Miscellaneous Emission Sources – Limitations** - If the volatility of the solvent used in the cold cleaning machines (HW-MNT1-F007) is greater than 0.6 psi measured at 100°F, or if the solvent is heated above 120°F, then the degreaser (if the open area is greater than 20ft²) should be equipped with one of the vapor control methods listed under 9 VAC 5-40-3290 C.1.e.1 through 5.
(9 VAC 5-80-110 and 9 VAC 5-40-3290 C.1.e.)
203. **Miscellaneous Emission Sources – Limitations** - Waste solvent from the cold cleaning machines (HW-MNT1-F007, HW-MNT1-F001a, HW-MNT1-F001b, HW-MNT1-F001c and HW-MNT1-F001d) shall not be disposed of or transferred to another party such that greater than 20 percent of the waste (by weight) can evaporate into the atmosphere. The permittee shall store waste solvent only in closed container.
(9 VAC 5-80-110 and 9 VAC 5-40-3290 C.2.a.)
204. **Miscellaneous Emission Sources – Limitations** - The cover on each cold cleaning machine (HW-MNT1-F007, HW-MNT1-F001a, HW-MNT1-F001b, HW-MNT1-F001c and HW-MNT1-F001d) shall be closed whenever the permittee is not handling parts in the cleaner. Cleaned parts should drain for at least 15 seconds or until dripping ceases.
(9 VAC 5-80-110, 9 VAC 5-40-3290 C.2.b. and 9 VAC 5-40-3290 C.2.c.)
205. **Miscellaneous Emission Sources – Limitations** - Disposal of waste solvent from the cleaning machines (HW-MNT1-F007, HW-MNT1-F001a, HW-MNT1-F001b, HW-MNT1-F001c and HW-MNT1-F001d) shall be by reclamation or incineration by an outside service.
(9 VAC 5-80-110 and 9 VAC 5-40-3290 C.2.d.)
206. **Miscellaneous Emission Sources – Limitations** - The permittee shall place in a conspicuous location on or near the cleaning machines (HW-MNT1-F007, HW-MNT1-F001a, HW-MNT1-F001b, HW-MNT1-F001c and HW-MNT1-F001d) a permanent label summarizing the requirements of 203, 204, and 205.
(9 VAC 5-80-110 and 9 VAC 5-40-3290C.1.c)
207. **Miscellaneous Emission Sources – MACT Subpart ZZZZ Requirements** – Except where this permit is more restrictive than the applicable requirement, the emission units (Reference Nos. HP-RIC-DF4 and HP-RIC-DGS) shall be operated in compliance with all applicable requirements of MACT ZZZZ –National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.

The emission units are considered an existing emergency stationary compression ignition engines as defined in 40 CFR 63.6590(a)(1)(ii) and 63.6675. The requirements are as follows:

Citation	Requirement
63.6602 and Table 2c(1)	Operating Requirements
63.6604(b)	Fuel Requirements
63.6605	Compliance Requirements
63.6625(e)(f)(h) & (i)	Monitoring and Maintenance Requirements
63.6640(a)(b) & (f)	Continuous Compliance Requirements
63.6650(h)(1) and Footnote 1 of Table 2c	Reporting Requirements
63.6655 (except (c))	Recordkeeping Requirements
63.6665 and Table 8	General Provisions

(9 VAC 5-80-110 and 40 CFR 63, Subpart ZZZZ)

208. **Miscellaneous Emission Sources – MACT Subpart ZZZZ Requirements** - Except where this permit is more restrictive than the applicable requirement, the emission units (Reference Nos. HP-RIC-GDK and HP-RIC-PGP) shall be operated in compliance with all applicable requirements of MACT ZZZZ –National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. The emission units are considered an existing emergency stationary spark ignition engines as defined in 40 CFR 63.6590(a)(1)(ii) and 63.6675. The requirements are as follows:

Citation	Requirement
63.6602 and Table 2c(6)	Operating Requirements
63.6605	Compliance Requirements
63.6625(e)(f)(h) & (j)	Monitoring and Maintenance Requirements
63.6640(a)(b) & (f)	Continuous Compliance Requirements
63.6650(h)(1) and Footnote 1 of Table 2c	Reporting Requirements
63.6655 (except (c))	Recordkeeping Requirements
63.6665 and Table 8	General Provisions

(9 VAC 5-80-110 and 40 CFR 63, Subpart ZZZZ)

209. **Miscellaneous Emission Sources – MACT Subpart ZZZZ Requirements** - Except where this permit is more restrictive than the applicable requirement, the emission unit (Reference No. HP-RIC-GAC) shall be operated in compliance with all applicable requirements of MACT ZZZZ –National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. The emission unit is considered a new emergency stationary spark ignition engine as defined in 40 CFR 63.6590(a)(2)(ii), 63.6590(c)(6) and 63.6675. The emergency engine is required

to meet the requirements of MACT ZZZZ by meeting the requirements of NSPS Subpart JJJJ.
(9 VAC 5-80-110 and 40 CFR 63.6590(c))

210. **Miscellaneous Emission Sources – Monitoring** - Cleaning machine inspections shall be conducted monthly for the area around each cleaning machine (HW-MNT1-F007) to ensure that all operational requirements are being met. At the end of six months, upon the permittee's request, the Department will determine the feasibility of decreasing the monitoring frequency to quarterly for the next six month period. If, at any time, the operational requirements are not being met per the permit conditions, the permittee shall revert back to the monthly inspection schedule. At the end of the second six-month period, upon the permittee's request, the Department will determine the feasibility of decreasing the frequency of monitoring to semiannually. If, at any time, the operational requirements are not being met per the permit conditions, the permittee shall revert back to the quarterly inspection schedule.
(9 VAC 5-80-110)
211. **Miscellaneous Emission Sources – Recordkeeping** - The permittee shall maintain records of each monthly inspection conducted at each cleaning machine (HW-MNT1-F007), with all corrections noted. Any training conducted shall also be noted, along with a listing of personnel attending the training and dates of the training.
(9 VAC 5-80-110 and 9 VAC 5-50-50 F and H)
212. **Miscellaneous Emission Sources – Recordkeeping** - The permittee shall maintain MSDS information on the solvent used in the cleaning machines (HW-MNT1-F007). This information shall include data showing compliance with Condition 202.
(9 VAC 5-80-110 and 9 VAC 5-50-50 F and H)
213. **Miscellaneous Emission Sources – Reporting** - Semiannually the permittee shall report on instances of non-compliance found during cleaning machine (HW-MNT1-F007) area inspections and training conducted for these machines.
(9 VAC 5-80-110 and 9 VAC 5-50-50 H)

Insignificant Emission Units

214. **Insignificant Emission Units** - The following emission units at the facility are identified in the application as insignificant emission units under 9 VAC 5-80-720:

Emission Unit #	Emission Unit Description	Citation ⁽¹⁾	Pollutant Emitted (9 VAC 5-80-720 B.)	Rated Capacity (9 VAC 5-80-720 C.)
Wood Yard Process Area				
1	Long log handling (1997)	9 VAC 5-80-720B	PM10	
2	Long log cranes Drum debarker infeed chute			

Emission Unit #	Emission Unit Description	Citation ⁽¹⁾	Pollutant Emitted (9 VAC 5-80-720 B.)	Rated Capacity (9 VAC 5-80-720 C.)
3 4 5 6 7 8 9 10	Debarking & chipping (1997) Drum debarker Drum debarker discharge gate Infeed conveyor Control House Prentice loader Chipper Motor Chipper Building	9 VAC 5-80-720B	PM10	14'x90' 80' 15 knife 116" diam.
	Pile erosion from long log piles (1997)	9 VAC 5-80-720B	PM10	
	Pile erosion from fresh cut chip pile (1997)	9 VAC 5-80-720B	PM10	
	Pile erosion from purchased chip pile (<1972)	9 VAC 5-80-720B	PM10	
	Pile erosion bark pile (1997)	9 VAC 5-80-720B	PM10	
11 12 13 14	Chip handling (> 1976) #1 conveyor Surge Bin #2 conveyor To stack conveyor	9 VAC 5-80-720B	PM10	72"x232" 48"x343' 54"x238'
	Chip silos (1953)	9 VAC 5-80-720B	PM10	
15	Fresh chip unloading to new pile Stacker conveyor and under pile reclaimers	9 VAC 5-80-720B	PM10	60"x153'
16 17	Fresh cut chip pile transport to scalping screen Reclaim conveyor Conveyor to scalping screen	9 VAC 5-80-720B	PM10	42"x386' 42"x195'
18	Conveyor to screening	9 VAC 5-80-720B	PM10	42"x238'
20 A B C D E F	Fresh chip transport to silo Accepts conveyor Incline conveyor Shuttle conveyor #1 Short conveyor #2 Short conveyor #3 Short conveyor #3 Medium conveyor	9 VAC 5-80-720B	PM10	42"x428' 42"x155' 42"x28' 48"x72' 48"x42' 24"x50' 24"x100'
21 & 22	Purchased chip unloading, truck Truck dumpers with live hopper reclaim	9 VAC 5-80-720B	PM10	
23 24	Purchased chip transport to new pile #1 chip dump conveyor #2 chip dump conveyor	9 VAC 5-80-720B	PM10	48"x134' 48"x248'
27, 28, & 29	Transport bark from debarker to conveyor Vibrating conveyors	9 VAC 5-80-720B	PM10	24/37x60'
31 & 32	Secondary Chipper and Screen Disc screen and hog	9 VAC 5-80-720B	PM10	
	Bark hogging (1997)	9 VAC 5-80-720B	PM10	

Emission Unit #	Emission Unit Description	Citation ⁽¹⁾	Pollutant Emitted (9 VAC 5-80-720 B.)	Rated Capacity (9 VAC 5-80-720 C.)
30 33 35 36 37	Bark handling (1997) #1 Mill bark conveyor #2 Mill bark conveyor Bark stacker and conveyor #3 Mill bark conveyor #4 Mill bark conveyor Bark/Truck loading	9 VAC 5-80-720B	PM10	42"x255' 42"x223' 42"x66' 42"x626' 42"x253'
38 39	Undersize chips conveyed to wood residue pile #1 Fines conveyor #2 Fines conveyor	9 VAC 5-80-720B	PM10	24"x351' 24"x184'
G	Conveyor from silos to chip bins Long conveyor	9 VAC 5-80-720B	PM10	48"x465'
H	chip bins	9 VAC 5-80-720B	PM10	
I	From bins to digester loading conveyor Outfeed conveyor	9 VAC 5-80-720B	PM10	38"x290'
J	Digester loading conveyor	9 VAC 5-80-720B	PM10	48"x460'
K	Purchased chip unloading, rail Rail car shaker	9 VAC 5-80-720B	PM10	
L	Old screen and pneumatic conveyance	9 VAC 5-80-720B	PM10	
	Fines Conveyor	9 VAC 5-80-720B	PM10	
Recausticizing Area				
HW-CRP1-V007	Mud storage	9 VAC 5-80-720A.42		
HW-CRP1-V023	Mud Pre-coat filter and vacuum pump exhaust (1993)	9 VAC 5-80-720A.42		
HW-CRP1-V025A	Green liquor clarifier tank (1998)	9 VAC 5-80-720A.42		
HW-CRP1-V025B	Green liquor storage tanks including surge tank (1998)	9 VAC 5-80-720A.42		
HW-CRP1-V026	Dregs filter, hood and vacuum pump (>1976)	9 VAC 5-80-720A.42		
HW-CRP1-622A	Pad clarifier and causticizing u-drains tank (1953)	9 VAC 5-80-720A.42		
7/017X	Causticizer	9 VAC 5-80-720A.42		
9/617D	Causticizer	9 VAC 5-80-720A.42		
8/739C	Causticizer	9 VAC 5-80-720A.42		
10/738C	Causticizer	9 VAC 5-80-720A.42		
HW-CRP1-V016B1	White liquor clarifier (1992)	9 VAC 5-80-720A.42		
HW-CRP1-V016B2	White liquor weak wash storage Tanks	9 VAC 5-80-720A.42		
Chemical Recovery Process Area				
	Salt cake conveying and storage (1977)	9 VAC 5-80-720A.42		
Co-Product Recovery Process Area				
HW-CT02-V001	2 Soap Storage tanks (1956)	9 VAC 5-80-720B	VOC HAP	
	Brine storage (pre 1970)	9 VAC 5-80-720B	VOC HAP	
HW-CT01-V008	Tall oil storage (pre 1956)	9 VAC 5-80-720B	VOC HAP	
HW-CT01-V014	Brine neutralization (1992)	9 VAC 5-80-720B	VOC HAP	
HW-CT01-V997	Tall oil settling (1995)	9 VAC 5-80-720B	VOC HAP	

Emission Unit #	Emission Unit Description	Citation ⁽¹⁾	Pollutant Emitted (9 VAC 5-80-720 B.)	Rated Capacity (9 VAC 5-80-720 C.)
Paper Mill Process Area				
	Stenciling of paper Rolls (1980)	9 VAC 5-80-720B	VOC	
	Labeling of Product Rolls	9 VAC 5-80-720B	VOC	
Power Generation Process Area				
PWR-02	Ash handling and storage (1980)	9 VAC 5-80-720B	PM10	
PWR-03	Cooling Tower Tankage (1980)	9 VAC 5-80-720B	VOC	
PWR-06	Lube oil tanks (1980)	9 VAC 5-80-720B	VOC	
PWR-07	Misc. tanks/storage (1980)	9 VAC 5-80-720B	VOC	
Recycled Fiber Process Area				
	Recycled fiber process area (>1972)	9 VAC 5-80-720B	VOC	
	Hydropulper (<1972)	9 VAC 5-80-720B	VOC	
Miscellaneous Processes				
	Diesel Fuel, LP, and kerosene storage	9 VAC 5-80-720B	VOC	
	Used oil storage tanks	9 VAC 5-80-720B	VOC	
	Vehicle Fluids/oil storage tanks	9 VAC 5-80-720B	VOC	
HW-PRD1-F001	Paved road fugitives (not woodyard) (<1972)	9 VAC 5-80-720B	PM10	
HW-WWT1-F001	Wastewater handling (<1972)	9 VAC 5-80-720B	VOC	
HW-MNT1-F008	Parts Cleaner-Machine Shop (>3/17/1972) 50 gallons	9 VAC 5-80-720A.38		

These emission units are presumed to be in compliance with all requirements of the federal Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping, or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110. (9 VAC 5-80-110)

Permit Shield and Inapplicable Requirements

215. **Permit Shield & Inapplicable Requirements** - Compliance with the provisions of this permit shall be deemed compliance with all applicable requirements in effect as of the permit issuance date as identified in this permit. This permit shield covers only those applicable requirements covered by terms and conditions in this permit and the following requirements which have been specifically identified as being not applicable to this permitted facility:

Citation	Title of Citation	Description
40 CFR 63.8	Monitoring Requirements	This section of the general provisions of the MACT standards is not applicable to this facility since the continuous monitoring systems required by Subpart S do not currently have performance specifications promulgated for them. This exclusion is listed in 40 CFR 63.8(a)(2).
9 VAC 5 Chapter 40 Part II Article 17	Emission Standards for Woodworking Operations	This standard is not applicable to the wood yard operations (WY-01 and WY-02) since this standard typically does not apply to green wood.

Citation	Title of Citation	Description
40 CFR 60, Subpart Kb	New Source Performance Standards (NSPS) of Performance for Volatile Organic Liquid Storage Vessels.	The facility does not have any storage tanks that are applicable to this standard.
40 CFR 60, Subpart BB	NSPS of Performance for Kraft Pulp Mills	This standard does not apply to the 12 batch digesters (HW-PUM2-V037), the brown stock washer (HW-PUM1-A030), and the lime kiln (HW-CRP2-S022) since this equipment was built prior to the applicable construction date of the regulation and have not been reconstructed or modified (September 24, 1976).
40 CFR 60, Subpart Da	NSPS for Electric Utility Steam Generating Units	This does not apply because the combination boiler (HW-PSG2-S022/006) does not supply more than one-third of its potential electric output capacity to a utility power distribution system.
40 CFR 63, Subpart T	National Emission Standards for Hazardous Air Pollutants (NESHAP) for Halogenated Solvent Cleaning	This standard does not apply to the batch cold cleaning machines (HW-MNT1-F007, HW-MNT1-F008, and HW-MNT1-F009) since they do not use halogenated solvents.
40 CFR 60, Subpart HH	NSPS for Lime Manufacturing Plants	As provided in 60.340(b), the provisions of this subpart are not applicable to facilities used in the manufacture of lime at kraft pulp mills.
9 VAC 5-40-5220 F	Stage II Vapor Recovery Systems	This section of the regulations does not apply to the gasoline dispensing pump at the facility since the average monthly throughput is less than 10,000 gallons. This exemption is listed in 9 VAC 5-40-5220 F.4.a.
9 VAC 5 Chapter 40 Part II Article 13	Emission Standards for Kraft Pulp Mills	This standard does not apply to the recovery furnace (HW-PSG4-S013), the MEEV (HW-PSG4-S999A), and the smelt dissolving tank (HW-PSG4-S018) since this equipment is subject to new source performance standards and Chapter 50 of the regulations. This exemption is listed in 9 VAC 5-40-1660 C.
40 CFR 60.283(a)(4) (NSPS Subpart BB)	NSPS for TRS from Smelt Dissolving Tanks	This standard does not apply (0.033 lb/ton black liquor solids as H ₂ S) since the PSD permit applied the more stringent standard of 0.0168 lbs/ton black liquor solids. Therefore, the standard in 60.283 has been streamlined.
40 CFR 63, Subpart DDDDD	NESHAP for Major Sources: Industrial, Commercial and Institutional Boiler and Process Heaters	This does not apply to the recovery furnace since it is applicable to MACT Subpart MM. (40 CFR 63.7491(b))
40 CFR 60, Subpart Db	NSPS for Industrial-Commercial-Institutional Steam Generating Units	This does not apply because the steam generating units at the facility do not meet the size criteria and the equipment was built prior to the applicable date (June 19, 1984) of the regulation.
40 CFR 60, Subpart Dc	NSPS for Small Industrial-Commercial-Institutional Steam Generating Units	This does not apply because the steam generating units at the facility do not meet the size criteria and the equipment was built prior to the applicable date of the regulation.
40 CFR 60, Subpart K	NSPS for Storage Vessels for which construction, reconstruction, or	This does not apply because none of the storage vessels greater than 40,000 gallons store any of the listed materials.

Citation	Title of Citation	Description
	modification commenced after June 11, 1973 and prior to May 19, 1978	
40 CFR 60, Subpart Ka	NSPS for Storage Vessels for which construction, reconstruction, or modification commenced after May 18, 1978 and prior to July 23, 1984	This does not apply because none of the storage vessels greater than 40,000 gallons store any of the listed materials.
40 CFR 60, Subpart O	NSPS for Sewage Treatment Plants	The wastewater treatment plant at the facility does not meet the definition of a municipal sewage treatment plant.
40 CFR 60, Subpart IIII	NSPS for Stationary Compression Ignition Internal Combustion Engines	The facility has not installed any CI internal combustion engines since the applicable date (July 11, 2005) of the regulation.
40 CFR 60, Subpart JJJJ	NSPS for Stationary Spark Ignition Internal Combustion Engines	This is not applicable because the SI engines were manufactured prior to the applicable date (July 1, 2008) of the regulation.
40 CFR 63, Subpart Q	NESHAP for Industrial Process Cooling Towers	This is not applicable because the cooling towers at the facility do not use chromium-based water treatment chemicals.
40 CFR 63, Subpart KK	NESHAP for Printing and Publishing	This is not applicable because the facility does not conduct any printing operations as defined in the Subpart.
40 CFR 63, Subpart JJJJ	NESHAP for Paper and Other Web Coating	This is not applicable because the facility does not conduct any paper coating operations as defined in the Subpart.
40 CFR 68	Chemical Accident Prevention Provisions	This is not applicable because the facility is below the threshold quantity of regulated substances.
40 CFR 72	Acid Rain Program	The combination boiler (HW-PSG2-S022/006) is not subject to this program because it is a cogeneration unit and was constructed for the purpose of supplying equal or less than one-third its potential electrical output capacity. (9 VAC 5-80-380B.4)
9 VAC 5 Chapter 40 Article 8	Emission Standards for Fuel Burning Equipment	The standards do not apply to the combination boiler (HW-PSG2-S022/006) because the requirements of 40 CFR 60 Subpart D are more stringent.
9 VAC 5 Chapter 40 Article 31	Emission Standards for Paper and Fabric Coating Application Systems	This is not applicable because the facility does not have any paper coating or fabric coating application systems.
9 VAC 5 Chapter 40 Article 37	Emission Standards for Petroleum Liquid Storage and Transfer Operations	This is not applicable because no standards apply to gasoline tanks that are <40,000 gallons (HW-GAS1-F001) and the fuel oil tanks (PWR-10) are exempt per 9 VAC 5-40-5200C.
9 VAC 5 Chapter 140 Part 1 Article 1	NOx Budget Program General Provisions	This is not applicable to the combination boiler (HW-PSG2-S022/006) because it does not meet the definition of "unit", since it does not combust fossil fuel more than 50% of the annual heat input on a Btu basis.

Nothing in this permit shield shall alter the provisions of §303 of the federal Clean Air Act, including the authority of the administrator under that section, the liability of the owner for

any violation of applicable requirements prior to or at the time of permit issuance, or the ability to obtain information by the administrator pursuant to §114 of the federal Clean Air Act, (ii) the Board pursuant to §10.1-1314 or §10.1-1315 of the Virginia Air Pollution Control Law or (iii) the Department pursuant to §10.1-1307.3 of the Virginia Air Pollution Control Law.

(9 VAC 5-80-110 and 9 VAC 5-80-140)

General Conditions

216. **General Condition - Federal Enforceability** - All terms and conditions in this permit are enforceable by the administrator and citizens under the federal Clean Air Act, except those that have been designated as only state-enforceable.
(9 VAC 5-80-110)
217. **General Condition - Permit Expiration**- This permit has a fixed term of five years. The expiration date shall be the date five years from the date of issuance. Unless the owner submits a timely and complete application for renewal to the Department consistent with the requirements of 9 VAC 5-80-80, the right of the facility to operate shall be terminated upon permit expiration.
- a. The owner shall submit an application for renewal at least six months but no earlier than eighteen months prior to the date of permit expiration.
 - b. If an applicant submits a timely and complete application for an initial permit or renewal under 9VAC5-80-80 F, the failure of the source to have a permit or the operation of the source without a permit shall not be a violation of Article 1, Part II of 9 VAC 5 Chapter 80, until the Board takes final action on the application under 9 VAC 5-80-150.
 - c. No source shall operate after the time that it is required to submit a timely and complete application under subsections C and D of 9 VAC 5-80-80 for a renewal permit, except in compliance with a permit issued under Article 1, Part II of 9 VAC 5 Chapter 80.
 - d. If an applicant submits a timely and complete application under section 9 VAC 5-80-80 for a permit renewal but the Board fails to issue or deny the renewal permit before the end of the term of the previous permit, (i) the previous permit shall not expire until the renewal permit has been issued or denied and (ii) all the terms and conditions of the previous permit, including any permit shield granted pursuant to 9 VAC 5-80-140, shall remain in effect from the date the application is determined to be complete until the renewal permit is issued or denied.
 - e. The protection under subsections F 1 and F 5 (ii) of section 9 VAC 5-80-80 F shall cease to apply if, subsequent to the completeness determination made pursuant section 9 VAC 5-80-80 D, the applicant fails to submit by the deadline specified in

writing by the Board any additional information identified as being needed to process the application.

(9 VAC 5-80-80, 9 VAC 5-80-110 and 9 VAC 5-80-170)

218. **General Condition - Recordkeeping and Reporting** - All records of monitoring information maintained to demonstrate compliance with the terms and conditions of this permit shall contain, where applicable, the following:

- a. The date, place as defined in the permit, and time of sampling or measurements.
- b. The date(s) analyses were performed.
- c. The company or entity that performed the analyses.
- d. The analytical techniques or methods used.
- e. The results of such analyses.
- f. The operating conditions existing at the time of sampling or measurement.

(9 VAC 5-80-110)

219. **General Condition – Recordkeeping and Reporting** - Records of all monitoring data and support information shall be retained for at least five years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.
(9 VAC 5-80-110)

220. **General Condition – Recordkeeping and Reporting** -The permittee shall submit the results of monitoring contained in any applicable requirement to DEQ no later than March 1 and September 1 of each calendar year. This report must be signed by a responsible official, consistent with 9 VAC 5-80-80 G, and shall include:

- a. The time period included in the report. The time periods to be addressed are January 1 to June 30 and July 1 to December 31.
- b. All deviations from permit requirements. For purposes of this permit, deviations include, but are not limited to:
 - i. Exceedance of emissions limitations or operational restrictions;
 - ii. Excursions from control device operating parameter requirements, as documented by continuous emission monitoring, periodic monitoring, or compliance assurance monitoring (CAM) which indicates an exceedance of emission limitations or operational restrictions; or,

- iii. Failure to meet monitoring, recordkeeping, or reporting requirements contained in this permit.
- c. If there were no deviations from permit conditions during the time period, the permittee shall include a statement in the report that “no deviations from permit requirements occurred during this semi-annual reporting period.”
(9 VAC 5-80-110)

221. **General Condition - Annual Compliance Certification** - Exclusive of any reporting required to assure compliance with the terms and conditions of this permit or as part of a schedule of compliance contained in this permit, the permittee shall submit to EPA and DEQ no later than March 1 each calendar year a certification of compliance with all terms and conditions of this permit including emission limitation standards or work practices for the period ending December 31. The compliance certification shall comply with such additional requirements that may be specified pursuant to §114(a)(3) and §504(b) of the federal Clean Air Act. The permittee shall maintain a copy of the certification for five years after submittal of the certification. This certification shall be signed by a responsible official, consistent with 9 VAC 5-80-80 G, and shall include:

- a. The time period included in the certification. The time period to be addressed is January 1 to December 31;
- b. The identification of each term or condition of the permit that is the basis of the certification;
- c. The compliance status;
- d. Whether compliance was continuous or intermittent, and if not continuous, documentation of each incident of non-compliance;
- e. Consistent with subsection 9 VAC 5-80-110 E, the method or methods used for determining the compliance status of the source at the time of certification and over the reporting period;
- f. Such other facts as the permit may require to determine the compliance status of the source; and
- g. One copy of the annual compliance certification shall be submitted to EPA in electronic format only. The certification document should be sent to the following electronic mailing address: R3_APD_Permits@epa.gov

(9 VAC 5-80-110)

222. **General Condition - Permit Deviation Reporting** - The permittee shall notify the Piedmont Regional Office within four daytime business hours after discovery of any deviations from permit requirements which may cause excess emissions for more than one hour, including those attributable to upset conditions as may be defined in this permit. In addition, within 14 days of the discovery, the permittee shall provide a written statement explaining the problem, any corrective actions or preventative

measures taken, and the estimated duration of the permit deviation. Owners subject to the requirements of 9 VAC 5-40-50 C and 9 VAC 5-50-50 C are not required to provide the written statement prescribed in this paragraph for facilities subject to the monitoring requirements of 9 VAC 5-40-40 and 9 VAC 5-50-40. The occurrence should also be reported in the next semi-annual compliance monitoring report pursuant to General Condition 220 of this permit.
(9 VAC 5-80-110 F.2)

223. **General Condition - Failure/Malfunction Reporting** - In the event that any affected facility or related air pollution control equipment fails or malfunctions in such a manner that may cause excess emissions for more than one hour, the owner shall, no later than four daytime business hours after the malfunction is discovered, notify the Piedmont Regional Office such failure or malfunction and within 14 days provide a written statement giving all pertinent facts, including the estimated duration of the breakdown. Owners subject to the requirements of 9 VAC 5-40-50 C and 9 VAC 5-50-50 C are not required to provide the written statement prescribed in this paragraph for facilities subject to the monitoring requirements of 9 VAC 5-40-40 and 9 VAC 5-50-40. When the condition causing the failure or malfunction has been corrected and the equipment is again in operation, the owner shall notify the Piedmont Regional Office.
(9 VAC 5-80-110 and 9 VAC 5-20-180)
224. **General Condition – Failure/Malfunction Reporting** - The emission units that have continuous monitors subject to 9 VAC 5-40-50 C and 9 VAC 5-50-50 C are not subject to the 14 day written notification.
(9 VAC 5-80-110, 9 VAC 5-20-180, and 9 VAC 5-50-50)
225. **General Condition – Failure/Malfunction Reporting** - Each owner required to install a continuous monitoring system (CMS) or monitoring device subject to 9 VAC 5-40-41 or 9 VAC 5-50-410 shall submit a written report of excess emissions (as defined in the applicable subpart in 9 VAC 5-50-410) and either a monitoring systems performance report or summary report form, or both, to the board quarterly. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter. All reports shall include the following information:
- a. The magnitude of excess emissions computed in accordance with 40 CFR 60.13(h) or 9 VAC 5-40-41 B.6, any conversion factors used, and the date and time of commencement and completion of each period of excess emissions;
 - b. Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the source. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted;
 - c. The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments; and

- d. When no excess emissions have occurred or the continuous monitoring systems have not been inoperative, repaired or adjusted, such information shall be stated in the report.

All malfunctions of emission units not subject to 9 VAC 5-40-50 C and 9 VAC 5-50-50 C require written reports within 14 days of the discovery of the malfunction.
(9 VAC 5-80-110, 9 VAC 5-20-180 C, and 9 VAC 5-50-50)

226. **General Condition – Severability** - The terms of this permit are severable. If any condition, requirement or portion of the permit is held invalid or inapplicable under any circumstance, such invalidity or inapplicability shall not affect or impair the remaining conditions, requirements, or portions of the permit.
(9 VAC 5-80-110)
227. **General Condition - Duty to Comply** - The permittee shall comply with all terms and conditions of this permit. Any permit noncompliance constitutes a violation of the federal Clean Air Act or the Virginia Air Pollution Control Law or both and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or, for denial of a permit renewal application.
(9 VAC 5-80-110)
228. **General Condition -Need to Halt or Reduce Activity not a Defense** - It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
(9 VAC 5-80-110)
229. **General Condition - Permit Modification** - A physical change in, or change in the method of operation of, this stationary source may be subject to permitting under State Regulations 9 VAC 5-80-50, 9 VAC 5-80-1100, 9 VAC 5-80-1605, or 9 VAC 5-80-2000 and may require a permit modification and/or revisions except as may be authorized in any approved alternative operating scenarios.
(9 VAC 5-80-110, 9 VAC 5-80-190 and 9 VAC 5-80-260)
230. **General Condition - Property Rights** - The permit does not convey any property rights of any sort, or any exclusive privilege.
(9 VAC 5-80-110)
231. **General Condition - Duty to Submit Information** - The permittee shall furnish to the Board, within a reasonable time, any information that the Board may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Board copies of records required to be kept by the permit and, for information claimed to be confidential, the permittee shall furnish such records to the Board along with a claim of confidentiality.
(9 VAC 5-80-110)

232. **General Condition - Duty to Submit Information** - Any document (including reports) required in a permit condition to be submitted to the Board shall contain a certification by a responsible official that meets the requirements of 9 VAC 5-80-80 G. (9 VAC 5-80-110)
233. **General Condition - Duty to Pay Permit Fees** - The owner of any source for which a permit under 9 VAC 5-80-50 through 9 VAC 5-80-300 was issued shall pay permit fees consistent with the requirements of 9 VAC 5-80-310 through 9 VAC 5-80-350 in addition to an annual permit maintenance fee consistent with the requirements of 9 VAC 5-80-2310 through 9 VAC 5-80-2350. The actual emissions covered by the permit program fees for the preceding year shall be calculated by the owner and submitted to the Department by April 15 of each year. The calculations and final amount of emissions are subject to verification and final determination by the Department. The amount of the annual permit maintenance fee shall be the largest applicable base permit maintenance fee amount from Table 8-11A in 9 VAC 5-80-2340, adjusted annually by the change in the Consumer Price Index. (9 VAC 5-80-110, 9 VAC 5-80-340 and 9 VAC 5-80-2340)
234. **General Condition - Fugitive Dust Emission Standards** - During the operation of a stationary source or any other building, structure, facility, or installation, no owner or other person shall cause or permit any materials or property to be handled, transported, stored, used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. Such reasonable precautions may include, but are not limited to, the following:
- a. Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land;
 - b. Application of asphalt, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which may create airborne dust; the paving of roadways and the maintaining of them in a clean condition;
 - c. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty material. Adequate containment methods shall be employed during sandblasting or other similar operations;
 - d. Open equipment for conveying or transporting material likely to create objectionable air pollution when airborne shall be covered or treated in an equally effective manner at all times when in motion; and,
 - e. The prompt removal of spilled or tracked dirt or other materials from paved streets and of dried sediments resulting from soil erosion.
- (9 VAC 5-80-110 and 9 VAC 5-50-90)
235. **General Condition - Startup, Shutdown, and Malfunction** - At all times, including periods of startup, shutdown, soot blowing, and malfunction, owners shall, to the extent

practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with air pollution control practices for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Board, which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

(9 VAC 5-80-110 and 9 VAC 5-50-20 E)

236. **General Condition - Alternative Operating Scenarios** - Contemporaneously with making a change between reasonably anticipated operating scenarios identified in this permit, the permittee shall record in a log at the permitted facility a record of the scenario under which it is operating. The permit shield described in 9 VAC 5-80-140 shall extend to all terms and conditions under each such operating scenario. The terms and conditions of each such alternative scenario shall meet all applicable requirements including the requirements of 9 VAC 5 Chapter 80, Article 1.
(9 VAC 5-80-110)
237. **General Condition - Inspection and Entry Requirements** - The permittee shall allow DEQ, upon presentation of credentials and other documents as may be required by law, to perform the following:
- a. Enter upon the premises where the source is located or emissions-related activity is conducted, or where records must be kept under the terms and conditions of the permit.
 - b. Have access to and copy, at reasonable times, any records that must be kept under the terms and conditions of the permit.
 - c. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit.
 - d. Sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.
- (9 VAC 5-80-110)
238. **General Condition - Reopening For Cause** - The permit shall be reopened by the Board if additional federal requirements become applicable to a major source with a remaining permit term of three years or more. Such reopening shall be completed no later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to 9 VAC 5-80-80 F. The conditions for reopening a permit are as follows:

- a. The permit shall be reopened if the Board or the administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
 - b. The permit shall be reopened if the administrator or the Board determines that the permit must be revised or revoked to assure compliance with the applicable requirements.
 - c. The permit shall not be reopened by the Board if additional applicable state requirements become applicable to a major source prior to the expiration date established under 9 VAC 5-80-110 D.
(9 VAC 5-80-110)
239. **General Condition -Permit Availability** - Within five days after receipt of the issued permit, the permittee shall maintain the permit on the premises for which the permit has been issued and shall make the permit immediately available to DEQ upon request.
(9 VAC 5-80-110 and 9 VAC 5-80-150)
240. **General Condition - Transfer of Permits** - No person shall transfer a permit from one location to another, unless authorized under 9 VAC 5-80-130, or from one piece of equipment to another.
(9 VAC 5-80-110 and 9 VAC 5-80-160)
241. **General Condition - Transfer of Permits** - In the case of a transfer of ownership of a stationary source, the new owner shall comply with any current permit issued to the previous owner. The new owner shall notify the Board of the change in ownership within 30 days of the transfer and shall comply with the requirements of 9 VAC 5-80-200.
(9 VAC 5-80-110 and 9 VAC 5-80-160)
242. **General Condition - Transfer of Permits** - In the case of a name change of a stationary source, the owner shall comply with any current permit issued under the previous source name. The owner shall notify the Board of the change in source name within 30 days of the name change and shall comply with the requirements of 9 VAC 5-80-200.
(9 VAC 5-80-110 and 9 VAC 5-80-160)
243. **General Condition - Permit Revocation or Termination for Cause** - A permit may be revoked or terminated prior to its expiration date if the owner knowingly makes material misstatements in the permit application or any amendments thereto or if the permittee violates, fails, neglects or refuses to comply with the terms or conditions of the permit, any applicable requirements, or the applicable provisions of 9 VAC 5 Chapter 80 Article 1. The Board may suspend, under such conditions and for such

period of time as the Board may prescribe any permit for any of the grounds for revocation or termination or for any other violations of these regulations.
(9 VAC 5-80-110, 9 VAC 5-80-190 C and 9 VAC 5-80-260)

244. **General Condition - Duty to Supplement or Correct Application** - Any applicant who fails to submit any relevant facts or who has submitted incorrect information in a permit application shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrections. An applicant shall also provide additional information as necessary to address any requirements that become applicable to the source after the date a complete application was filed but prior to release of a draft permit.
(9 VAC 5-80-110 and 9 VAC 5-80-80 E)
245. **General Condition - Stratospheric Ozone Protection** - If the permittee handles or emits one or more Class I or II substances subject to a standard promulgated under or established by Title VI (Stratospheric Ozone Protection) of the federal Clean Air Act, the permittee shall comply with all applicable sections of 40 CFR Part 82, Subparts A to F.
(9 VAC 5-80-110 and 40 CFR Part 82)
246. **General Condition - Asbestos Requirements** - The permittee shall comply with the requirements of National Emissions Standards for Hazardous Air Pollutants (40 CFR 61) Subpart M, National Emission Standards for Asbestos as it applies to the following: Standards for Demolition and Renovation (40 CFR 61.145), Standards for Insulating Materials (40 CFR 61.148), and Standards for Waste Disposal (40 CFR 61.150).
(9 VAC 5-60-70 and 9 VAC 5-80-110)
247. **General Condition - Accidental Release Prevention** - If the permittee has more, or will have more than a threshold quantity of a regulated substance in a process, as determined by 40 CFR 68.115, the permittee shall comply with the requirements of 40 CFR Part 68.
(9 VAC 5-80-110 and 40 CFR Part 68)
248. **General Condition - Changes to Permits for Emissions Trading** - No permit revision shall be required under any federally approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in this permit.
(9 VAC 5-80-110)
249. **General Condition - Emissions Trading** - Where the trading of emissions increases and decreases within the permitted facility is to occur within the context of this permit and to the extent that the regulations provide for trading such increases and decreases without a case-by-case approval of each emissions trade:
- a. All terms and conditions required under 9 VAC 5-80-110, except subsection N, shall be included to determine compliance.

- b. The permit shield described in 9 VAC 5-80-140 shall extend to all terms and conditions that allow such increases and decreases in emissions.
- c. The owner shall meet all applicable requirements including the requirements of 9 VAC 5-80-50 through 9 VAC 5-80-300.
(9 VAC 5-80-110)

Compliance Assurance Monitoring Plan

Plan 1

Emission Unit Description: Black liquor recovery furnace

Emission Unit ID: HW-PSG4-S013

Emission Limit: PM-10: 43.6 lb/hr and 155.2 tpy

Control Device: Electrostatic Precipitator

Pre-CAM Monitoring Requirement: The provisions of MACT Subpart MM requires that a COMS be installed on a recovery furnace equipped with an ESP to continuously monitor opacity.

CAM Description: WestRock proposes that the continuous opacity monitoring requirements also meet the CAM requirements for PM-10. The provisions of 40 CFR 63 Subpart MM allows a recovery furnace to monitor opacity to satisfy the continuous monitoring system requirements. WestRock proposes that these requirements also meet the requirements of CAM for PM-10.

Monitoring Approach

Indicator: Opacity

Indicator Range: The indicator range is 0 to 30% opacity. An excursion is defined as one six-minute period when opacity exceeds 30% for either the East or West stacks. All excursions trigger investigation, corrective action and reporting on the semi-annual report as necessary.

QIP Threshold: A QIP will be developed and implemented if the number of excursions exceeds 5% duration of the operating time during a semi-annual reporting period.

Performance Criteria

Data Representativeness: A COM is utilized to comply with the specific monitoring provisions which is located on both the East and West Stack of the recovery furnace. The COMs are compliant with 40 CFR 60 Appendix B Performance Specification 1. All excursions trigger investigation, corrective action and reporting on the semi-annual report as necessary

Verification of Operational Status: N/A - monitoring equipment is not new or modified.

QA/QC Practices and Criteria: The monitoring devices are calibrated daily. A calibration failure is identified as any zero or span drift that exceeds 4%. This is consistent with the requirements of 40 CFR 60 Performance Specification 1 and 40

CFR 60 Appendix F. Appendix F specifies that a failure occurs when a monitor exceeds two times the performance specification calibration drift. Calibration results and operational parameters from the COMs are reviewed daily. The COMs are also operated and maintained in accordance with a written QA/QC plan that contains provisions for preventative and corrective maintenance.

Monitoring Frequency: Data is collected by the COM at least every 3 seconds.

Data Collection Procedures: The DAS calculations have programmed alarms, which will alert operators when any of the averages exceed the limit. These alarm periods are compiled by the DAS and used to generate quarterly and semi-annual reports as required by permit and regulation.

Justification for Monitoring Approach

Opacity is used as a means to demonstrate compliance with the particulate standards of MACT Subpart MM. The recovery furnace is limited to 35 % opacity (6 minute average) in the permit and in MACT Subpart MM. MACT Subpart MM also requires corrective actions be taken when the average of ten consecutive 6-minute averages are greater than 20% opacity. For the purposes of CAM, an excursion is defined as one six-minute period when the opacity exceeds 30% for either the East or West stacks. This definition is more stringent than the corrective action requirements of the MACT. All excursions trigger investigation, corrective action and reporting on the semi-annual report as necessary.

Plan 2

Emission Unit Description: Smelt Dissolving Tank

Emission Unit ID: HW-PSG4-S018

Emission Limit: PM-10: 54.8 tpy

Control Device: Wet Scrubber

Pre-CAM Monitoring Requirement: The provisions of MACT Subpart MM require that scrubber liquid flowrate and pressure drop be monitored to satisfy the continuous monitoring system requirements for PM.

CAM Description: WestRock proposes that these requirements also meet the requirements of CAM for PM-10. Adequate scrubber flow and pressure drop is necessary for both PM/PM-10.

Monitoring Approach

Indicator: Scrubber Liquid Flowrate/Pressure drop

Measurement Approach: Flow is monitored through a liquid flowmeter. Pressure drop is monitored by a pressure transducer.

Indicator Range: Per the compliance testing established for particulate for 40 CFR 63 Subpart MM the liquid flowrate must remain above 309 gpm and below 500 gpm and the differential pressure must remain above 1 inch of water as a rolling 3 hour average. An excursion is defined as one hour period when either the scrubber flow or differential

pressure is outside the range identified above. All excursions trigger investigation, corrective action and reporting on the semi-annual deviation report as necessary.

QIP Threshold: WestRock proposes that a QIP is triggered if more than 3 excursions of the indicator range occur during a semi-annual period.

Performance Criteria

Data Representativeness: The monitoring system consists of measurement of liquid flowrate and pressure drop through the venturi section of the scrubber. Per the requirements of 40 CFR 63.864(e)(10) the measurement of the pressure drop of the gas stream across the scrubber must be certified by the manufacturer to be accurate to within a gage pressure of ± 500 pascals (± 2 inches of water gage pressure); and the measurement of scrubbing liquid flow rate must be certified by the manufacturer to be accurate within ± 5 percent of the design scrubbing liquid flow rate.

All excursions trigger investigation, corrective action and reporting on the semi-annual deviation report as necessary.

Verification of Operational Status: N/A - monitoring equipment is not new or modified.

QA/QC Practices and Criteria: The monitoring devices are calibrated annually and the manufacturer's recommendations are used at a minimum for other QA requirements.

Monitoring Frequency: Scrubber flowrate and Pressure Drop are monitored automatically every 15 minutes at a minimum.

Data Collection Procedures: The DAS calculations have programmed alarms, which will alert operators when any of the averages exceed the limit. These alarm periods are compiled by the DAS and used to generate quarterly and semi-annual reports as required by permit and regulation.

Justification for Monitoring Approach

The provisions of MACT Subpart MM require that scrubber liquid flowrate and pressure drop be monitored to satisfy the continuous monitoring system requirements for PM. WestRock proposes that these requirements also meet the requirements of CAM for PM-10. Adequate scrubber flow and pressure drop is necessary for both PM/PM-10.

Plan 3

Emission Unit Description: Combination Boiler

Emission Unit ID: HW-PSG2-S022

Emission Limit: PM-10: 171.5 tpy

Control Device: Multicyclone followed by an electrostatic precipitator

Pre-CAM Monitoring Requirement: The provisions of 40 CFR 63 Subpart DDDDD require that opacity be monitored for compliance with the standards. The provisions of the Subpart require that the opacity limit be 10 % expressed as a daily average unless a higher level is determined during stack testing.

CAM Description: WestRock proposes that similar requirements be used to demonstrate the requirements of CAM for PM-10.

Monitoring Approach

Indicator: Opacity

Measurement Approach: Continuous Opacity monitoring

Indicator Range: The indicator range is 0 to 8% opacity. An excursion is defined as any six-minute period in excess of 8% opacity. All excursions trigger investigation, corrective action and reporting on the semi-annual deviation report as necessary.

QIP Threshold: A QIP will be developed and implemented if the number of excursions exceeds 5% duration of the operating time during a semi-annual reporting period.

Performance Criteria

Data Representativeness: A COM is utilized to comply with the specific monitoring provisions, which is located on the stack of the boiler. System is operated in accordance with 40 CFR 60 Appendix B Performance Specification 1. All excursions trigger investigation, corrective action, and reporting on the semi-annual deviation report as necessary.

Verification of Operational Status: N/A because the monitoring equipment is not new or modified.

QA/QC Practices and Criteria: The monitoring devices are calibrated daily. A calibration failure is identified as any zero or span drift that exceeds 4%. This is consistent with the requirements of 40 CFR 60 Appendix B Performance Specification 1. Appendix F specifies that a failure occurs when a monitor exceeds two times the performance specification calibration drift. Calibration results and operational parameters from the COMs are reviewed daily. The COMs are also operated and maintained in accordance with a written QA/QC plan that contains provisions for preventative and corrective maintenance.

Monitoring Frequency: Data is collected by the COM at least every 3 seconds.

Data Collection Procedures: Data is collected by the COM DAS and compiled into 6 minute and daily averages. The DAS calculations have programmed alarms, which will alert operators when any of the averages exceed the limit. These alarm periods are compiled by the DAS and used to generate quarterly and semi-annual reports as required by permit and regulation.

Justification for Monitoring Approach

The provisions of 40 CFR 63 Subpart DDDDD require that opacity be monitored for compliance with the standards. The provisions of the Subpart require that the opacity limit be 10 % expressed as a daily average unless a higher level is determined during stack testing. The boiler is also limited to 20% opacity for a six minute period in Condition 26 of the 5/9/14 permit. There are no short term standards for PM-10 that apply to the boiler, only the annual total emission rate. WestRock is proposing that for CAM, an excursion be defined as any six minute period when the opacity exceeds 8%.